BUILDING TURNAROUND CAPACITY FOR URBAN SCHOOL IMPROVEMENT: THE ROLE OF ADAPTIVE LEADERSHIP AND DEFINED AUTONOMY

by

JILL K. CONRAD

B.A. University of New Hampshire, 1991

M.A. University of Colorado, Boulder, 1997

A thesis submitted to the

Faculty of the Graduate School of the

University of Colorado in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

Educational Leadership and Innovation

2013

This thesis for the Doctor of Philosophy degree by

Jill K. Conrad

has been approved for the

Educational Leadership and Innovation Program

by

Alan Davis, Advisor

Rodney Muth, Chair

Robert Palaich

Paul Teske

April 19, 2013

Conrad, Jill, K. (Ph.D., Educational Leadership and Innovation)

Building Turnaround Capacity for Urban School Improvement: The Role of Adaptive Leadership and Defined Autonomy

Thesis directed by Alan Davis

ABSTRACT

This dissertation examines the levels of and relationships between technical leadership, adaptive leadership, and defined autonomy among Denver school leaders along with their combined effects on school growth gains over time. Thirty principals provided complete responses to an online survey that included existing scales for technical leadership, adaptive leadership, and autonomy and newly created measures for defined autonomy. Five different scenarios for measuring defined autonomy were used combining managed instruction with different forms of school autonomy: autonomy over general operations (Scenario 1), autonomy over people, time, and money-combined (Scenario 2), autonomy over people (Scenario 3), autonomy over time (Scenario 4), and autonomy over money (Scenario 5). Technical challenges associated with the data (e.g., small sample size, self-reported leadership scales, accurately measuring school autonomy) severely limited the statistical power of the analyses and the reliability of the results. A series of hierarchical regression analyses found no statistically significant effects for any of the variables however, one overall model (when total leadership and defined autonomy scenario 3 were included together with three controls; Baseline score, enrollment, and ELL) did yield a statistically significant result, $R^2 = .398$, $p < .05$. No beta values were statistically significant; however, of the three primary variables in this model, total leadership explained the most variance ($\beta = .263$), followed by managed instruction ($\beta = .249$). Autonomy over people had a surprisingly negative association with school growth gains ($\beta = -.220$). Persistent union constraints, a lack of training in human capital management, poor or delayed implementation, and limited measures of teacher effectiveness available at the time, along with the data limitations may be to blame. More research is needed to examine these possibilities. Other patterns in the data revealed that managed instruction consistently presented the strongest effects of any other autonomy variable, autonomy over operational areas produced stronger results than autonomy over curriculum, and that autonomy over resources may matter more when managed instruction is not present. Finally, analysis of covariance (ANCOVA) was used to test the research hypothesis which was rejected. Although not the preferred results, this study affirms that school leadership matters and offers some new insights on and possible measures for the concept of defined autonomy in urban school districts.

The form and content of this abstract are approved. I recommend its publication.

Approved: Alan Davis

DEDICATION

I dedicate this dissertation to my daughter, Julia, who reminds me every day of what is important in life. To my mother, Carol, who has enthusiastically cheered me on from the very beginning and to my husband, John, whose love and support made sure I made it through to the end—I could not have done it without either of you. I further dedicate this body of work—and my life's work in urban education—to the 84,424 students of the Denver Public Schools. They were the inspiration for this study and remain forever in my heart, no matter where I live and work, as I continue to quest for strategies that make a difference for all students.

ACKNOWLEDGEMENT

With over a decade of work on this PhD and doctoral dissertation, there are numerous people who must be acknowledged for their enduring guidance, support, and wisdom along the way. I will start with the one who welcomed me into the program, guided me through each step, and served as my PhD and early dissertation advisor until his retirement in 2012, Rodney Muth. I simply cannot thank Rod enough for all of the support he provided every step of the way. I am deeply grateful for the many hours of coaching, time, and reviewing of drafts provided by Alan Davis, who stepped into the role as dissertation advisor when needed. To the other members of my committee, Paul Teske and Robert Palaich, I admire and respect both of you so much, for your work as scholars and in the field and am eternally thankful for your efforts and supports here and throughout my career. I greatly appreciate the school leaders of Denver both for their participation in the study and for their courageous efforts to transform Denver's schools. I wish to thank all of the DPS district leaders, including the superintendent, my school board colleagues, and others who availed themselves for the interviews and provided numerous insights on the subjects at hand. Finally, there are numerous friends and colleagues, too many to mention by name, but each of whom provided wonderful doses of laughter, understanding, and motivation to keep going all along the way. I am so blessed to have each and every one of you in my lives.

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CHAPTER I

INTRODUCTION

In today's 21st century global economy, the need to ensure that all students meet or exceed standards for learning is increasingly urgent (Friedman, 2006; Obama, 2009; Pink, 2006). Urban school districts, in particular, face enormous challenges in meeting this goal for all students (McAdams, 2000; Snipes, Doolittle, & Herlihy, 2002). While some historical research contends that community, cultural, socioeconomic, and other factors beyond the control of schools determine outcomes for students (Brooks-Gunn & Duncan, 1997; Coleman, 1966; Comer, 1988; Jencks & Phillips, 1998; Rothstein, 2004, 2007) recent research suggests that school systems—districts, in particular—can improve the achievement of all students, despite their racial, cultural, economic, and other contextual backgrounds (Anderson, 2003; Cawelti & Protheroe, 2001; Childress, Elmore, & Grossman, 2006; Childress, Elmore, Grossman, & Johnson, 2007; Haycock, 2007; Marzano & Waters, 2009; McKinsey & Company, 2007; Reeves, 2003).

In recent years, improving school leadership has become a priority among policy leaders and school reformers (Colvin, 2007; Council of Chief State School Officers, 2008; Darling-Hammond, 2007; Darling-Hammond, LaPointe, Meyerson, & Orr, 2007; Davis, Darling-Hammond, LaPointe, & Meyerson, 2005; Fullan, 2008a; Leithwood, Louis, Anderson, & Wahlstrom, 2004; B. Portin, Alejandro, Knapp, & Marzoff, 2006 ; B. Portin, Feldman, & Knapp, 2006; Sanders & Kearney, 2008; Wallace Foundation, 2007, 2009). This is an important focus, especially within urban districts with many low-performing schools needing to be turned around so that all students may achieve higher levels of performance (Haycock, 2007; Public Agenda, 2008). Research also confirms that school leadership is second only to teacher effectiveness in its impact on student achievement, especially for the lowest-achieving schools in the greatest need of improvement (Darling-Hammond, 2007; Darling-Hammond et al., 2007; Davis et al., 2005; Leithwood et al., 2004). “Indeed, there are virtually no documented instances of troubled schools being turned around without intervention by a powerful leader” (p. 5).

Understanding what constitutes “turnaround leadership” (Fullan, 2005; Herman et al., 2008; Meyers & Murphy, 2007) and how urban districts can best develop, support, and sustain it is especially important in today’s urban schools where the challenges are “adaptive,” not simply “technical” (Heifetz, 1994; Heifetz, Grashow, & Linsky, 2009; Heifetz & Linsky, 2002). While technical challenges are often highly complex, they “have known solutions that can be implemented by current know-how” (Heifetz, Grashow, & Linsky, 2009, p. 19). Such problems can be fixed with known, technical strategies and simply require the application of a body of knowledge and skill. Adaptive challenges, conversely, are far more complex because they confront unresolved dilemmas that cannot be solved with mere technical fixes and they usually involve value conflicts. Resolving them requires much more than the application of a body of knowledge or skill. Resolving adaptive challenges requires the ability to mobilize people toward a change in their own value systems and behavior for the benefit of an organization, institution, or society—often while these organizations, institutions, and societies are in the midst of major changes and transformations causing tremendous uncertainty about the future. Adaptive challenges are “gaps generated by bold aspirations amid changing realities. For these, the world needs to build new ways of being and responding beyond the current repertoires of available know-how" (p. 2). At their core, adaptive challenges tend to involve deeper issues and value conflicts, and "can only be addressed through changes in people's priorities, beliefs, habits, and loyalties. Making progress requires going beyond any authoritative expertise to mobilizing discovery, shedding certain entrenched ways, tolerating losses, and generating new capacity to thrive anew" (p. 19).

Dramatically improving student achievement in all of the schools in urban school districts is the important, adaptive challenge of our time in education. Improving learning outcomes for all students is, indeed, a "bold aspiration" worthy of our pursuit despite the "changing realities" in our urban communities and scarce resources available. Success not only requires "new ways of responding" and new "know-how," but it requires deep changes in the "priorities, beliefs, habits, loyalties," and practices of all educators and other stakeholders in the public education system. Without question, success requires that a new kind of leadership take hold—adaptive leadership—in both urban schools and districts.

Indeed, "In the current context, getting at leaders' 'adaptive expertise'—their ability to engage problems that have no technical solutions—may be as important as determining the extent of their technical know-how" (Portin et al., 2006, p. 31). This statement implies that the type of leadership needed in today's urban schools requires something more than what has traditionally been available or developed in preparation or training programs. To this end over the past ten years, the Wallace Foundation has funded numerous studies and analyses examining the role of leadership in education. This body of work also concludes that new approaches to school leadership are needed to ensure high academic achievement for all students (Darling-Hammond et al., 2007).

The set of studies cited above also allude to the notion that the solution cannot simply rest in the “new and improved” school leaders themselves: Districts will likely need to adjust their roles—ways of governing, ways of operating, and ways of supporting leaders—vis-à-vis schools as well (Burch & Spillane, 2004; Hess, 2002b; Honig, 2003; McLaughlin & Talbert, 2003; Youngs, 2000). This implies that research focused on understanding more about a district’s context vis-à-vis schools and school leaders may make a difference.

While still up for debate, approaches to prepare and develop school leaders have long been established. Understanding just what it is, however, that districts ought to do to better support the leadership needed remains a key question in the field. Some evidence suggests that a key is expanding the autonomy granted to individual schools and with it, the decision-making authority: having the authority as school leaders, to make a wider range of school decisions can make a difference in school improvement (Adamowski, Therriault, & Cavanna, 2007; Allen, Oshtoff, White, & Swanson, 2005; Hess, 2009; Leithwood & Menzies, 1998; Marzano, Waters, & McNulty, 2005; Waters & Marzano, 2006; Waters, Marzano, & McNulty, 2003).

Others say that some level of autonomy, but not full-fledged autonomy, is the answer, especially when it comes to matters of instruction and the importance of achieving instructional coherence for the benefit of all students. In their meta-analysis of school leaders’ impact on student achievement, Marzano, Waters, and McNulty (2003) identified “defined autonomy” as a phenomenon that has a positive relationship with increases in student achievement. Defined autonomy refers to a relationship between a district and its schools wherein schools and, more specifically, principals are encouraged to “assume responsibility for school success. *Defined autonomy* means that the superintendent expects building principals and all other administrators in the district to lead *within the boundaries defined by the district goals*” (Marzano & Waters, 2009, p. 8). “Building leaders must lead within the confines of the nonnegotiable district goals for achievement and instruction and constraints those goals place on principal leadership autonomy at the school level” (p. 89). In other words, while a principal’s level of decision-making authority plays a role in their ability to improve student achievement, it is not complete authority by itself that matters. It is the authority and flexibility to work toward a common set of goals and practices for improving instruction that matters. The district’s role, then, is to establish this instructional coherence and focus and the appropriate levels of constraints on school leaders’ authority, while also supporting them in expanding their authority to make better decisions related to instruction and school improvement.

This sort of autonomy comes with limits. It is what Fullan (2008b) calls the “simultaneous tight-loose solution” (p. 48). Striking just the right balance around how tight and how loose a district’s relations with its schools should be (and for what) is a key part of the challenge. Marzano and Waters (2009) offer some thought on this factor.

> While it is true that schools are unique and must operate in such a way as to address their unique needs, it is also true that each school must operate as a functional component of a larger system. It is the larger system—the district—that establishes the common work of schools within the district, and it is that common work that becomes the “glue” holding the district together. (p. 8)

Statement of the Problem

Today, we know more about the general effect of leadership (especially instructional leadership or “learning-focused leadership,” according to the Wallace Foundation, 2007, 2009) on student achievement and have some sense that defined autonomy plays a role in supporting school leaders’ abilities to create the conditions necessary for school improvement (Marzano & Waters, 2009). We know less about the relationship between the two, especially in the context of a large urban school district.

Purpose of the Study

I assert that as large urban districts increasingly require leaders who can successfully turn around low-performing schools, the need for effective leadership together with adaptive leadership increases, as does the need for increased autonomy (albeit, autonomy within certain limits defined by the district). Taken together, when these three factors are combined, they produce what I call turnaround capacity. This study examines the existence of each of the three factors in Denver Public Schools and explores their relationship to each other and to their combined ability to produce turnaround capacity. In this sense, turnaround capacity is the ability to accelerate gains in growth, over time, an important measure for schools that are starting from far behind where they should be. What is the relationship between leadership and school autonomy in developing turnaround capacity? Does defined autonomy play a role in developing turnaround capacity among school leaders and how does this compare with other forms of autonomy? How does turnaround capacity make a difference in school improvement results?

This study explores these and other key questions. Ultimately, the study tests the hypothesis that traditional principal leadership development (for purposes of this study, I call this “technical leadership,” referring to best practices for school leadership, including instructional leadership), on its own, is necessary, but not sufficient to orchestrate “turnaround” results in low-performing schools. I hypothesize that adaptive leadership that mobilizes all teachers and other stakeholders toward new repertoires of practice is needed to supplement traditional school leadership. Even together, technical and adaptive leadership, while necessary, may not be sufficient. For turnaround capacity to exist, that is, the ability to increase student growth over three years, not only must a school leader possess a certain amount of technical leadership as well as adaptive leadership, but the district must play a role in decentralizing key parts of its decision-making authority to school leaders (while simultaneously maintaining district-wide instructional coherence, focus, and goals as well as accountability), such that school leaders can operate with defined autonomy. In my theory, turnaround requires all three variables to exist in sufficient quantity: high levels of “technical leadership” *plus* “adaptive leadership” *and* “defined autonomy” must be present for turnaround capacity to flourish and produce not only individual schools, but a system of schools that sustainably improve student-achievement outcomes. All of these variables are mutually reinforcing of turnaround capacity and this is key for achieving significant levels of growth in urban school improvement. Figure 1 portrays a model of understanding the notion of turnaround capacity in this study.

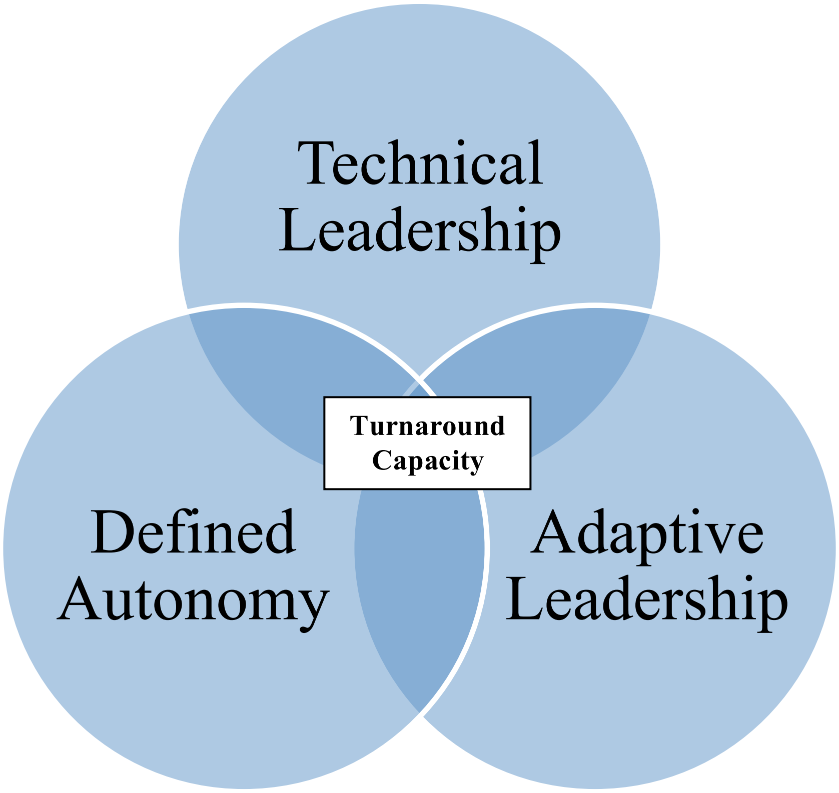

Figure 1.1 Conceptual Model for Turnaround Capacity

This study assumes that turnaround capacity requires the ability to apply all relevant technical fixes (e.g., best practices in instructional and operational leadership), plus engage and mobilize others in major behavior change (adaptive leadership), while continuously expanding one's scope of authority in order to "do what it takes," within the limits (mainly around instruction) set by the district, to drive dramatic changes in the school (defined autonomy). This study explores the role of turnaround capacity, defined as high levels of technical leadership, adaptive leadership, and defined autonomy, as a key element in turning around low performing urban schools. Specifically, the study examines the ways in which specific leadership abilities and practices combined with a certain level of decision-making authority yields turnaround capacity among school leaders. As such, the study describes the relationship between the two facets of leadership and school autonomy while also identifying how this combination contributes to school improvement within an urban district.

As the Obama administration has made innovative approaches to urban school district improvement a priority (Obama, 2009), a focus on increasing the supply of turnaround leaders for low performing schools is critical. A better understanding of the role of adaptive leadership development and defined autonomy in improving urban schools will contribute to this growing knowledge base and help inform the investment of federal, state, and local resources expected in the coming years. As urban school districts begin to invest in school-leadership development while also shifting more of their decision-making authority for certain things to schools (Wallace Foundation, 2007), understanding the relationship between these factors as well as their impact on school improvement is important and will support districts' efforts in designing leadership development opportunities, evaluating school leaders, establishing the parameters for defined autonomy, and other key strategies they choose to employ.

This study investigates these variables in the context of one urban school district, Denver Public Schools, which since 2005 has been implementing both new approaches to leadership development and increased school autonomy.

The Theoretical Framework

The theoretical framework upon which this study rests can be described as quasi-market-driven (in that it assumes an environment of school choice), performance-driven (in that it assumes a goal of increased growth in student achievement (per school) and systemic (in that it examines the complex dynamics of a changing system (a school district) in relation to its many parts (schools) and the role of school leaders within them).

Paul Hill (P. T. Hill, 1996, 2001, 2006; P. T. Hill, Campbell, & Harvey, 2000) perhaps comes the closest to outlining a theoretical framework that best explains the new kind of relationship between schools and their district that this study addresses. In line with the theory of expanded school choice, Hill's "portfolio approach to public schools" posits that giving schools more autonomy in exchange for greater accountability, schools become "more responsive to—and ultimately accountable to—the people they serve" (Copland & Boatright, 2006, p. 27). Further, the "presence of instructionally effective schools will weed out ineffective ones much faster than system-level efforts to change the quality of public education and the resulting competition between schools and districts makes them more productive over time (P. T. Hill, 2001, 2006; P. T. Hill et al., 2000; Hoxby, 2000). While this theory was originally focused almost exclusively on the role of charter schools within a school system, it applies, I believe, to any system that aims to improve schools by giving them increased autonomy.

One might reach the conclusion that charter schools, or other schools given increased autonomy, because they inherently have more autonomy than traditional schools, represent a kind of school that might automatically lead to higher performance. Given the mixed results for charter school performance nationally, clearly, this is not the case (Goldhaber, 1999 2000; Hess, 2002a; Hess & MgGuinn, 2002; Howe & Welner, 2003). This leads to the conclusion that charter schools, by themselves, or autonomy by itself is not enough to impact student achievement. In my view, the role of leadership—and the degree to which that leadership focuses on improving instruction and engaging the full team in the adaptive challenge of improving instruction for all students, especially those who are high poverty, is the key. That said, autonomy still has a role to play.

Hill's (2001; 2006) theoretical framework is incomplete in that it does not pay sufficient attention to the intentional and exclusive focus on instructional improvement that is found in large and growing bodies of research to be *the* key factor in both school and district improvement and success, no matter what type of school (McAdams, 2006; McFadden, 2009; Tharp-Taylor, Nelson, Dembosky, & Gill, 2007; The Broad Foundation, 2013; Vander Ark, 2013; Zavadsky, 2009). To rely on Hill's original theory alone, the focus is only on the choice environment and the governance relationship of schools. In other words, a school is not better (in terms of performance) simply because it is a charter or has more autonomy—these are not in and of themselves the desired ends. They are means to other ends. That is, improved instruction and, ultimately, achievement. The concept of "tight coupling" (Weick, 1976) is useful here to consider the way in which a school district might need to focus itself on clear and intentional goals for instruction. Weick defined tightly coupled organizations as those that are self-correcting, share a consensus on goals as well, are able to coordinate efforts, and have predictable problems. Weick determined that school districts did not have these features and were therefore loosely coupled. This is largely true at the organizational level and at the classroom level where the traditional approach is for schools—and, indeed, classroom teachers to have a high degree of autonomy in their approach to curriculum and instruction (LeCompte & Dworkin, 1991).

Some scholars have called for school districts to become more tightly coupled around instruction (Marzano, 2008; Marzano & Waters, 2009). As Marzano (2008) states, "until districts and schools become tightly coupled regarding student achievement, [district leaders] cannot consider themselves serious about school reform" (p. 5). This refers to the importance of having instructional coherence—a focused and intentional curriculum complemented by rich and, yes, differentiated instruction (based on individual student needs), but also aligned with clear instructional strategies that work for urban students. It is essentially the notion that school systems would become tightly coupled around instructional goals and strategies while loosely coupled around the management and decision-making involving other areas of school operations. In this framework, leadership is the necessary ingredient to ensure effective use of distributed authority. Table 1.1 provides an overview of this theoretical framework, including an outline of the independent and dependent variables that are examined in this study.

Table 1.1 Overview of Contextual Factors, Independent, and Dependent Variables

Contextual Factors	*Independent Variables*	*Dependent Variable*
Leadership Factors: Leadership preparation Leadership experience	Technical Leadership	
Professional development experience District leadership culture	Adaptive Leadership	Turnaround Capacity
		↓
Autonomy Factors Formal governance relationship (autonomy, innovation, charter, etc.) Perceived level of authority for decision-making Perceived parameters, direction, and support for instruction (tight-loose factor)	Defined Autonomy	Higher rates of school improvement growth

Research Questions and Design

Three primary research questions guide this study.

Research Question #1: What are the levels of technical leadership, adaptive leadership, and defined autonomy among Denver school leaders? Do any Denver school leaders have high levels of all three variables?

Research Question #2: What is the relationship between these three variables and each of them, individually, and combined with school growth gains?

Research Question #3: Do school leaders with higher levels of technical leadership, adaptive leadership, and defined autonomy achieve a higher rate of growth in their school's improvement, as measured by gains in the growth composite score on Denver's School Performance Framework (SPF)? Do any other factors make a difference in school growth gains?

Research Question #4: Is the hypothesis that school leaders with high levels of technical leadership, adaptive leadership, and defined autonomy achieve higher rates of school growth gains true?

Research Methodology

A case-study method utilizing a combination of qualitative and quantitative methodologies was conducted in three phases (Creswell & Plano Clark, 2007). Phase one of the study involved background research and in-person interviews with key informants. These were used as a basis for developing items and scales for the online urban principal survey that was administered in phase two. Phase two involved administration of an online survey with Denver school leaders. Phase three entailed the use of qualitative methods to analyze interview responses and quantitative methods to analyze survey data, in order to answer the above research questions. In addition, a series of tests of the research hypothesis were conducted to determine whether or not it could be supported through these data.

Construction of the survey in phase one involved several steps. First, I analyzed the then newly developed Interstate School Leaders Licensure Consortium (ISLLC) 2008 standards (CCSSO, 2008; Sanders & Kearney, 2008) and developed a set of survey questions aligned to these standards that assess principals' levels of technical leadership Second, I analyzed the indicators used in the Adaptive Leadership Profile™ (Cambridge Leadership Associates, 2008) and obtained permission to use it within the survey to assess principals' levels of adaptive leadership. Third, I reviewed the literature on school autonomy and defined autonomy and conducted informal interviews with key informants (Denver district leaders and national experts in the field and research) to develop a set of survey questions that assessed the level of defined autonomy that exists in the relationship between schools and the district. Background information used to develop each of these three scales can be found in the Appendix.

Fourth, interviews were conducted with key informants to inform construction of the survey. Data collected through interviews were analyzed qualitatively (Bernard, 1995; Geertz, 1973; LeCompte & Schensul, 1999) to identify key themes that emerged. Results from this analysis were used to construct measures focused on autonomy and defined autonomy within the final survey instrument.

Once a complete draft of the survey was developed, the items were validated through a pilot and content review by a set of content experts who collectively had expertise in all three areas to be measured (technical, adaptive, and defined autonomy).

Several school leaders from other districts and educational settings were also involved in piloting the survey and providing feedback on its content.

All three independent variables were assessed in the full survey instrument. The survey measured two types of leadership, technical and adaptive along with defined autonomy. To measure defined autonomy, responses to two scales were used, one measuring principals' perceptions of their level of decision-making authority in different areas (an autonomy gap scale) and the other the degree of presence of a district-wide definition around instruction (the managed instruction scale).

Phase two of the study entailed administration of the online survey and data analysis to answer each of the above research questions. The survey instrument was constructed and administered online using a proprietary software tool called Survey Monkey. It was administered in spring 2010 to all principals in Denver, including all charter, innovation, and traditional school leaders.

In phase three, the data collected through the online survey were analyzed quantitatively, first, to identify the degree to which Denver principals had technical leadership, adaptive leadership, and operated in an environment of defined autonomy. Then, a Pearson correlation matrix was run to determine the relationship of all key variables with each other and with school growth gains. Third, a series of hierarchical multiple regression analyses were used to determine the predictive relationships of the independent variables (technical leadership, adaptive leadership, and five different scenarios for measuring defined autonomy to the dependent variable (school growth gains) (Cohen & Cohen, 1983). Comparisons were made across the series to assess any differences between the five different scenarios for measuring defined autonomy.

Additional research was conducted to identify additional data, available through the school district that could be used as possible control variables within the regressions. The variables considered included level of free and reduced-price lunch students, percentage minority students, enrollment, percentage of English language learners, percentage of special education students, and schools' baseline status score on the Denver School Performance Framework (SPF). Possible measures of teacher quality and effectiveness were considered, however, there were no valid or reliable measures available during the time of the study and collecting them on my own was deemed to be beyond the scope of this study.

Structure of the Dissertation

This dissertation is presented in five chapters. Chapter 1 introduces the impetus for the study, discusses the primary research problem and theoretical framework, and provides an overview of the methods used. Chapter 2 provides a review of the literature for each of the primary concepts examined in the study. Chapter 3 describes the research methodology used in full, including the survey design, data collection methods, and steps taken for data analysis. Chapter 4 describes the finding from two quantitative analyses, hierarchical multiple regression and ANCOVA. Both were conducted in a series utilizing different methods of measuring the concept of defined autonomy to enable comparisons across these definitions. Finally, Chapter 5 summarizes the core findings and discusses their implications for future research as well as for the field of urban education reform.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This chapter reviews the research literature that explains the key variables associated with this study: school leadership (technical leadership), adaptive leadership, and defined autonomy. The review places each of these variables in the context of the literature focused on the role of school districts in impacting student achievement. A summary of literature focused on the role of school districts as systems in raising achievement is presented first. Then, a discussion of the concept of adaptive leadership follows along with a more lengthy review of school leadership literature, in general. An overview of district governance and decentralization is also presented. A review of the literature on school autonomy and, specifically, the available literature focused on the concept of defined autonomy is discussed. Finally, a summary of the more recent literature on innovation schools and managed instruction is also included.

The Role of School Districts in Raising Achievement

A body of evidence suggests that school systems—districts, in particular—can implement strategies that improve student achievement for all students, despite their racial, cultural, economic, and other contextual backgrounds (Anderson, 2003; Cawelti & Protheroe, 2001; Childress et al., 2006; Childress et al., 2007; Connell, 2003; Corcoran & Christman, 2002; Dailey et al., 2005; Duffy, 2004; Elmore & Burney, 1997; Fullan, 2001; Fullan, Rolheiser, Mascall, & Edge, 2001; Haycock, 2007; Jones, Goodwin, & Cunningham, 2003; Kim & Crasco, 2006; Kronley & Handley, 2003; Marsh et al., 2005; Massell & Goertz, 2002; McKinsey & Company, 2007; Petrides & Nodine, 2005; Public

Schools of North Carolina, 2000; Ragland, Asera, & Johnson, 1999; Reeves, 2003; Shannon & Bylsma, 2004; Skrla, Scheurich, & Johnson, 2000; Snipes et al., 2002; Spillane, 1996, 1998; Togneri & Anderson, 2003; Waters & Marzano, 2006; Wong, 2007).

Indeed, investment in early childhood education (Barnett, 1995; Currie, 2001; Gormley, Gayer, Phillips, & Dawson, 2005; Karoly et al., 1998; Karoly, Kilburn, & Cannon, 2005; Magnuson, Ruhm, & Waldfogel, 2007; Magnuson & Waldfogel, 2005; Puma, Bell, Cook, Heid, & Lopez, 2005; Waldfogel, 2006; Waldfogel & Lahaie, 2007), reduction in class size (under certain conditions, especially in the early grades) (Finn & Achilles, 1990; Krueger, 2002; Mosteller, 1995; Nye, Hedges, & Konstantopoulos, 2004), and improving teaching effectiveness (Aaronson, Barrow, & Sander, 2003; Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006; Boyd, Lankford, & Wyckoff, 2008; Clotfelter, Ladd, & Vigdor, 2006, 2007a, 2007b; Goldhaber, 2008; Hanushek, Kain, & Rivkin, 2005; Ladd, Sass, & Harris, 2007) have all been well established strategies shown to significantly impact the achievement of all students, especially those most vulnerable.

A synthesis of the research on the specific district strategies associated with improved student achievement shows that successful districts use multiple strategies in a comprehensive and coordinated manner (Anderson, 2003). These strategies include building a sense of efficacy across school and district staff, focusing on student achievement, performance-based accountability, district-wide instructional coherence, data-driven decision-making focused on continuous system improvement, strategically aligned professional development, creation of professional culture and community, school leadership development, and school autonomy, allowing an optimal balance between district and school-based decision making.

Additional research has focused on how school systems (countries, states, or districts) can become high performing (McKinsey & Company, 2007). For example, a September 2007 study focused on the world's top performing school systems found that three things matter most in the highest performing school systems, "irrespective of the culture in which they are applied" (p. 2). The study analyzed the Programme for International Student Assessment (PISA) scores of the top ten school systems in the world as well as those showing rapid gains on PISA. Researchers also conducted a review of the literature and interviewed more than 100 experts, policymakers, and practitioners. The strongest finding was that high performing school systems each focused on improving instruction as their number one priority. Researchers found that in doing so, the systems "consistently do three things well:

- They get the right people to become teachers (the quality of an education system cannot exceed the quality of its teachers),
- They develop these people into effective instructors (the only way to improve outcomes is to improve instruction), and
- They put in place systems and targeted support to ensure that every child is able to benefit from excellent instruction (the only way for the system to reach the highest performance is to raise the standard of every student)" (p. 13).

Top performing school systems utilize several recruiting and other policy mechanisms to make entry into the teaching profession attractive, selective, and strategic. They focus on improving instruction by implementing strategies like "coaching classroom practice, moving teacher training to the classroom, developing stronger school leaders, and enabling teachers to learn from each other—and have found ways to deliver these interventions throughout their school system" (p. 26).

After analyzing what is often missing from many school systems that attempt to accomplish this, Michael Fullan and his colleagues conclude that high performing school systems must find ways to delve more deeply into the practice of day-to-day classroom instruction emphasizing personalization, precision, and professional learning throughout the system (Fullan, Hill, & Crevola, 2006). This, according to these authors, is the key to getting at "focused teaching," that will truly impact the learning of each child. Focused teaching is "1) knowing in a precise way the strengths and weaknesses of each student at the point of instruction through accurate formative assessment; 2) knowing the appropriate instructional response and in particular when and how to use which instructional strategies and matched resources; and 3) having the classroom structures, routines, and tools to deliver differentiated instruction and focused teaching on a daily basis" (p. 33). They call for the development of a well-designed instructional system that would, much like the health care delivery system, focus on diagnosis of student learning needs as well as the delivery of effective sets of learning treatments to address those needs.

Finally, high-performing systems set high expectations for every child and ensure that the system becomes increasingly responsive to their individual needs. "They monitor performance against the expectations, intervening whenever they are not met" (McKinsey & Company, 2007, p. 34). This fundamentally entails becoming ever-more strategic about targeting resources and interventions toward the greatest areas of need. Further, “the best systems locate the processes for monitoring and intervention in the schools themselves, where they are able to identify the students in need of support and provide that support when needed on a continuous basis” (p. 35).

According to Waters and Marzano (2006), the role of district-level leadership also matters. These researchers sought to identify the strength of the relationship between the role that district-level administrators play and student achievement. Conducting a meta-analysis of 27 studies, Waters and Marzano identified a .24 correlation between district leadership and student achievement ($p < .05$).

Examining the data further, the researchers found that effective district leaders focus on creating goal-oriented districts that engage all stakeholders in a focused effort to improve classroom instruction and student achievement, continuously monitor progress, and align resources to support these priorities. This study also found that superintendent tenure and “defined autonomy” where “clear, non-negotiable goals for learning and instruction” were set while at the same time providing school leadership teams with the “responsibility and authority for determining how to meet those goals” also made a difference in raising student achievement (p. 4).

Marzano and Waters (2009) conclude that based on the results of their 2006 study, district leaders ought to assume a more proactive and assertive role vis-à-vis student learning, than traditionally promoted by the field. They call for the creation of “high-reliability districts” that focus strategically on student learning and classroom instruction. This, they explain, is the essence of having school districts become “tightly coupled” around instruction. When districts are tightly coupled around instruction (even if they are loosely coupled in other domains), they “can have a positive effect on student achievement" (p. 19). They state that, "Under this new view, district leaders should adopt a proactive stance that ensures certain uniform behaviors occur in every school in every classroom. This stands in contrast to what we believe is the current perspective that district leadership should allow schools to operate as independent entities and allow the teachers within those units to operate as independent contractors" (p. 13).

As the above review establishes, school systems, including school districts can play a significant role in employing key strategies to dramatically improve achievement levels for all students. First and foremost, a focus on the quality of instruction must be the top priority. Second, efforts to coordinate a coherent and reliable system of instruction that entails rigorous curricula combined with "effective sets of learning treatments" to address specific student needs are needed. Third, districts should enable flexibility at the school level so that schools, while operating in an environment of instructional coherence can be nimble enough to adjust from day to day to the specific needs of students and teachers. Thus, the relationship of districts to schools should be tightly coupled around instruction and loosely coupled around other elements of school operations. Having school leaders who can effectively balance and operate within this tight-loose environment is critical.

The Technical Leadership of Schools

Reaching a clear definition of leadership has long been recognized as problematic in that it can too often become confused with the status of occupying a position of authority or "headship" or a manager (Kellerman, 1984; Kotter, 1990, 2001; Kouzes & Posner, 1987; Muth & Wilkinson, 1987; Peters, 1987). As Kouzes and Posner (1987) point out, a vast difference exists between managers and leaders with *managers* focused on stability and control through systems and procedures, while *leaders* constantly mobilize change and a vision for “what might be,” expanding others’ authority “rather than standardizing them by shrinking their authority” (Peters, 1987, p. xii). In short, “Leaders do not control. They enable others to act” (Kouzes & Posner, 1987, p. xvii). Some take this notion a step further, calling upon leaders to motivate “adaptive work” in others (Heifetz, 1994; Heifetz & Laurie, 2001; Heifetz & Linsky, 2002). For Heifetz and Laurie (2001), this maintains a focus on “increasing their turnaround capacity—their ability to clarify values and make progress on the problems those values define” (p. 5).

Over the last decade, policymakers and school reformers have focused on the role of the school principal as the key lever for improving student achievement in every school. As a school-based factor, effective school leadership is second only to teacher effectiveness in its impact on student achievement (Colvin, 2007; Council of Chief State School Officers, 2008; Darling-Hammond, 2007; Darling-Hammond et al., 2007; Davis et al., 2005; Fullan, 2008a, 2008b; Leithwood et al., 2004; B. Portin et al., 2006 ; B. Portin, Schneider, DeArmond, & Gundlach, 2003; Sanders & Kearney, 2008; Snipes et al., 2002; Wallace Foundation, 2007, 2009). Indeed, leadership matters a lot, especially in schools—often located in urban settings—that need the most improvement (Haycock, 2007; Leithwood et al., 2004; Public Agenda, 2008).

Leithwood et al.’s (2004) comprehensive review of the research established that school leadership is “second only to classroom instruction among all school-related factors that contribute to what students learn at school,” and that such “leadership effects are largest where and when they are needed most” (p. 5). In a meta-analysis of more than 69 studies, Waters, Marzano, and McNulty (2003) had found that the general effect of principal leadership on student achievement has a correlation of 0.25 and identified 21 leadership responsibilities associated with 66 leadership practices, which all have statistically significant relationships with student achievement.

When it comes to the important task of turning around low-performing schools, “there are virtually no documented instances of troubled schools being turned around without intervention by a powerful leader” (Leithwood et al., 2004, p. 1). Indeed, while a “strong body of evidence support[s] the notion that teachers have the most immediate in-school effect on student success . . . there is growing agreement that suggests it is the principal who is best positioned to ensure that teaching and learning are strong throughout the school” (Shelton, 2009, p. 4). The bottom line question about whether leadership matters appears to be settled. It does.

Knowing that leadership matters is one thing. Knowing what effective leaders *do that matters* is another. While numerous studies have documented and described a variety of behaviors, traits, skills, and other aspects of effective leaders, the field has only recently developed a semblance of agreement on what, specifically, effective school leaders do to raise student achievement. They take numerous actions, including setting the direction for the school, developing the capacity of teachers and other educators to focus on instruction, and making the organization work to the best of its ability (Leithwood et al., 2004). They master the ability to manage not only “the basics,” but to develop “productive responses to the unique demands of the contexts in which they find themselves” (p. 10). Portin et al. (2003) claim that a school leader’s core job is to diagnose a school’s particular needs and develop strategies to meet them. They also contend that in order to be effective school leaders need to have the “authority and freedom of action [that] matches the responsibilities” demanded of them (p. 41).

New expectations for schools in the age of accountability for results imply that today’s school leadership must be true leaders and not mere managers (Kouzes & Posner, 1987), must be able to successfully orchestrate “second-order change,” (Marzano et al., 2005; Waters et al., 2003) and focused on doing adaptive work (Heifetz, 1994; Heifetz & Linsky, 2002). Indeed, in today’s urban districts “schools must be redesigned rather than merely administered” and principals need in depth knowledge and skill in instructional leadership as well as “a sophisticated understanding of organizations and organizational change” along with the ability to make “sound resource allocations that are likely to improve achievement for all students” (Darling-Hammond et al., 2007, p. 1). Most importantly, today’s school leaders must be “learning leaders” whose primary role is to “lead the learning work of a school” (Wallace Foundation, 2009, p. 1).

In recognition of the growing demands placed on today’s school leaders, several national organizations and policy influentials have spent the last ten years investing in research, policy initiatives, convenings, and other efforts to raise the level of attention, awareness, and action on the issue of school leadership (Council of Chief State School Officers, 2008; National Association of Elementary School Principals, 2009; Southern Regional Education Board, 2008, 2009; Wallace Foundation, 2007, 2009). The Wallace Foundation, for example, has invested millions of dollars over ten years to identify the most promising policies and practices that will dramatically improve school leadership in our nation’s schools (Knapp, Copland, Plecki, & Portin, 2006). The National Association of State Boards of Education (2009) has launched its own leadership initiative designed to “place quality leadership at the core of school reform,” and guide states on the policy conditions that would best support highly effective school leadership. (p. 1). The Southern Regional Education Board (2008) is also focused on school leadership and identifies “this looming shortage of qualified—versus certified—school leaders [as] a crisis,” but they optimistically acknowledge that “it presents an opportunity to redefine educational leadership and to identify and prepare a diverse new generation of leaders who can build higher-performing schools” (p. 1).

Today, a growing chorus of policy leaders sings the same tune about the importance and future of school leadership as a key ingredient for successful school reform. The field has gone from “whether leadership really matters or is worth the investment to ‘how’ to train, place, and support high quality leadership where it’s needed most” (CCSSO, 2008, p. 3). This has led many to call for states to develop comprehensive “learning-centered leadership systems.” Such systems would be far more purposeful and strategic at the state- and district-levels in efforts to recruit, prepare, license, induct, professionally develop, retain, evaluate, and compensate school leaders than exists today. According to Sanders & Kearney (2008), a coherent leadership policy system would contain policies and programs that are “aligned to support coherent and mutually reinforcing systems for recruitment, training, certification, assessment, evaluation, and professional development for leaders” (p. 2).

Fulfilling this tall order requires new methods of recruiting, retaining, developing, and supporting school leaders (Wallace Foundation, 2007). But, increasingly, researchers and policymakers are discovering that it’s “not enough to improve training” what’s needed is a more “cohesive leadership system” characterized by state-district-school policy coordination (DeVita, 2007, p. 2). This system would contain leadership standards as well as “conditions and incentives that support the ability of leaders to meet those standards” including “data to inform leaders’ decisions; the authority to direct needed resources to the schools and students with the greatest needs; and policies that affect the recruitment, hiring, placement and evaluation of school leaders” (p.2).

The literature on school leadership has seen the emergence of different concepts of leadership, capturing additional dimensions of leadership practice, skills, responsibilities, and behaviors that play a role in supporting school improvement. Although a comprehensive review of every leadership style described in school leadership literature is beyond the scope of this proposal, a brief discussion of distributed and turnaround leadership is included below. In addition, a discussion of the district’s role in supporting school leadership is also included below.

Distributed Leadership

As the realities of today’s schools become clearer, the demands for leadership become increasingly complex and require something more than a traditional approach. Indeed, many scholars “argue that the job requirements far exceed the reasonable capacities of any one person” (Darling-Hammond et al., 2007). For some, a focus on distributed leadership makes sense where understanding of leadership “moves away from reliance on administrative hierarchies and toward a network of shared and distributed practice” (Copland & Boatright, 2006, p. 12). When leadership is distributed, “school leadership practice is distributed in the interactions of school leaders, followers, and their situation” (Spillane, 2006, p. 2). Here, the focus is on the interactions between these actors and the recognition that improving education, especially in the most challenging schools, requires multiple leaders functioning in multiple roles (Coldren & Spillane, 2007). As Spillane (2006) points out, the critical factor of distributed leadership is not that it is shared, but "how it is distributed over leaders, followers, and their situation" (p. 4).

Turnaround Leadership

An emerging body of research and leadership development efforts now focuses on turnaround leadership (Archer, 2005a; Brinson, Kowal, & Hassel, 2008; Duke, 2004, 2006; Fullan, 2006; Fullan, 2005; Hassel & Hassel, 2009; Herman et al., 2008; Hess, 2009; Meyers & Murphy, 2007; Murphy, 2008; Murphy & Meyers, 2009; Public Impact, 2007, 2008). This work implies that to be successful, turnaround leaders require a unique set of skills and training that go beyond those typically developed in traditional preparation and professional development efforts. Indeed, "leading the learning work of schools for the future requires whole new sets of skills and attributes that imply continuous learning. A continuously learning organization, while not a new idea, is one that has increasing importance if our schools are to serve all students well to a high standard" (Wallace Foundation, 2009, p. 12).

In a review of evidence across sectors, including education, Public Impact (2007) identifies the "set of conditions and actions that have been documented to influence implementation of turnaround initiatives in schools and other organizations" (p. 4). The conditions supporting successful turnaround efforts include timing considerations, freedom to act, support and aligned systems, performance monitoring, and community engagement. Leadership actions found to be successful in turnaround efforts include analysis and problem solving, driving for results, measuring and reporting, and influencing others both inside and outside of the organization. In addition, successful turnaround leaders tend to concentrate on achieving a few, tangible wins early on and implementing strategies even if they disrupt organizational norms.

While there are many theories and attempts to apply findings from other fields, the actual literature on school-based turnarounds and evidence of their success is limited. Simply put, education leaders have little to go by in terms of research-based strategies that have proven themselves to work in school turnarounds. Public Impact (2008) offers descriptive advice in their publication, *School Turnarounds: Actions and Results* published for the Center on Innovation and Improvement. This document "provides descriptive, real-world vignettes that illustrate the actions that successful school leaders have taken to turn around low-performing schools" (p. 4). Drawn from case studies documenting successful school turnarounds the vignettes are presented within the conceptual framework outlined in Public Impact's 2007 study.

Fullan (2006), in his critique of the current approaches used to turn around low performing schools, highlights the importance of developing talent and internal capacity in turnaround leadership. Recognizing that "you cannot force order" through external incentives and consequences, but rather motivation to improve comes from building trust and ensuring that teachers see themselves as part of the solution. Fullan (2006) states, "In most turnaround schools, teachers do not feel they are the source of the solution; if anything they are given the message (subtly or not) that they are part of the problem—not much of a motivator there" (p. 36).

Fullan argues that the current turnaround strategies are inadequate to do the job. The main problem, as he sees it, is the over-reliance on external accountability, without enough internal capacity. Quoting Elmore (2004b), Fullan recognizes that "schools do not "succeed" in responding to external cues or pressures unless they have their own internal system for reaching agreement evident in organization and pedagogy. . . These schools have a clear, strong internal focus on issues of instruction, student learning and expectations for teacher and student performance . . . Such schools also have shared expectations among teachers, administrators, and students about what constitutes good work and a set of processes for observing whether these expectations are being met" (Fullan, 2006, p. 27). In short, there is alignment and everyone holds each other accountable for the results. Such internal accountability—"when individual responsibility, collective expectations, and accountability data within the school are aligned" is the key to successful turnaround leadership (p. 63).

In order to gain a broader perspective on what might lead to successful turnaround efforts in education, Hess (2009) examined turnaround literature from a broad array of fields and suggested four lessons from these experiences. Based on this review, to be successful, Hess surmised that,

> First, school leaders must have autonomy, flexibility, and urgency if they are to have a fighting chance at staging a turnaround. . . Second, reformers should not hesitate to change principals and school leaders to jump-start the turnaround process. . . Third, reformers need to view school turnarounds as an all-or-nothing proposition to avoid the pitfalls caused by unclear or conflicting objectives. . . Finally, once the decision is made to go forward with a turnaround, reformers should avoid forcing change on the school through organization-wide, top-down mandates. Instead, they should pursue continuous improvement by establishing high goals for individual teachers and staff, while giving them the tools and flexibility they need to be successful. (p. 3)

The key to success in turnarounds here is having "every employee buy in and commit to their role. Teachers and staff cannot be content merely to take marching orders from administrators but must be ready, willing, and trained to drive the educational innovations that make a turnaround possible" (p. 4).

A recent study conducted by Public Agenda for the Wallace Foundation, which aims to identify the needs for future school leaders, found that school leaders tended to fall into one of two different categories: "transformers" or "copers" (Public Agenda, 2008). While the "copers" were "typically struggling to avoid being overwhelmed" by their job, the "transformers had an explicit vision of what their school might be like and brought a 'can do' attitude to their job" and conveyed an attitude where "giving up is not an option" (p. 3). Clearly, schools in need of dramatic improvements are more likely to find success when led by a transformer rather than a coper.

Adaptive Leadership

The concept of adaptive leadership grew out of a 1994 volume by Ron Heifetz, called *Leadership without Easy Answers.* In this study, Heifetz (1994) draws on research and analysis across several fields and reviews cases of various leadership situations in which the challenges were daunting, if not intractable. As a result of his analysis, Heifetz proposed a new kind of leadership to address complex problems in the public sphere, one that "mobilizes people to tackle tough problems" (p. 15). Using the metaphor of evolutionary adaptation, where species change, or, "adapt" in order to survive and cultures change by learning, Heifetz introduces the concept of "adaptive work." According to Heifetz (1994), "adapting to human challenges requires that we go beyond the requirements of simply surviving" (p. 31). It requires that we close the gap between reality and our future aspirations for ourselves, society, or an organization. Adaptive work requires learning both to "define problems and implement solutions" (p. 75). If making progress on a certain problem requires “changes in people’s values, attitudes, or habits of behavior,” then adaptive work is necessary. As a result, leaders hoping to impact an adaptive challenge, often must look beyond their scope of authority to “mobilize adaptive work *toward* a solution” (p. 87), and this necessarily involves engaging others in the process, while at the same time, getting them to change their norms and behaviors.

Here, *authority* is both a resource for leadership and a constraint. It is a resource because it is useful to establish a role in the change process. It is a constraint in that others may limit the amount of authority one has to tackle a challenging problem. Adaptive leaders understand their established scope of authority in terms of both its opportunities and its limits and become adept at expanding that scope of authority, as the situation requires. While ordinary, “technical” leaders remain mostly within the bounds of their established authority by merely fulfilling existing expectations, adaptive leaders push the limits of their authority outward just enough, and at the right times, to accomplish various tasks while not going so far as to wind up losing their authority by being fired.

According to Heifetz (1994), there are five strategic principles of adaptive leadership. They are:

- “Identify the adaptive challenge.
- Keep the level of distress within a tolerable range for doing adaptive work.
- Focus attention on ripening issues and not on stress-reducing distractions.
- Give the work back to people, but at a rate they can stand.
- Protect voices of leadership without authority” (p. 128).

Adaptive leaders, then, create conditions for others to learn and move forward on solutions to adaptive challenges. “A leader has to engage people in facing the challenge, adjusting their values, changing perspectives, and developing new habits of behavior” (p. 276). In urban schools requiring dramatic turnaround, pushing both internal and external stakeholders to not just support a new direction, but to actually engage in new habits and new behaviors that are more productive in raising student achievement, this is the fundamental reason why adaptive—not just technical—leadership is needed.

In *Leadership on the Line,* Heifetz and Linsky (2002) acknowledge that exercising the kind of leadership required to overcome adaptive challenges, often means, “exceeding the authority you are given to tackle the challenge at hand” (p. 2). Such actions usually generate resistance, can sometimes be considered “dangerous activity,” because it involves risk, and is, therefore, quite rare and difficult to achieve. As these authors state, “Leadership would be a safe undertaking if your organizations and communities only faced problems for which they already knew the solutions” (Heifetz & Linsky, 2002, p. 13). As the challenges of modern society become increasingly complex, addressing these adaptive challenges will increasingly require a new kind of leadership. Heifetz, Grashow, and Linsky (2009) offer practical advice to leaders in their book, *The Practice of Adaptive Leadership: Tools and Tactics for Changing Your Organization and the World.* They call for a kind of “improvisational expertise” highlighting the fact that to address most of today’s public problems, something beyond today’s wisdom is needed.

> What is needed from a leadership perspective are new forms of improvisational expertise, a kind of process expertise that knows prudently how to experiment with never-been-tried-before relationships, means of communication, and ways of interacting that will help people develop solutions that build upon and surpass the wisdom of today’s experts. (pp. 2-3)

Adaptive leaders must engage people in facing challenges, adjusting their values, changing their perspectives, and developing new habits of behavior in the midst of uncertainty and changing dynamics within an organization or society. This, by definition, necessitates a tremendous amount of fear and often, loss, on the part of those involved, which takes the form of resistance to change. The adaptive leader skillfully works to "give the work back" to those who need to solve the problem. "Without learning new ways—changing attitudes, values, and behaviors—people cannot make the adaptive leap necessary to thrive in the new environment. The sustainability of change depends on having the people with the problem internalize the change itself" (p. 13). Essentially, adaptive leadership involves "promoting the resourcefulness" of others (p. 15). Spurring people to change in ways that effectively tackle new challenges and problems often requires putting oneself, as a leader "on the line" and "disturbing people," but, importantly, at just the right level. For Heifetz and Linsky (2002), adaptive leadership "requires disturbing people—but at a rate they can absorb" (p. 20).

Few studies have linked the concept of adaptive leadership to education. Those that have, however, show some promising results. One study of the relationships between superintendents' leadership practices, social networks, and impact on school culture, found that superintendents who practiced "adaptive leadership" impacted change in the school culture, whereas superintendents practicing "technical leadership" did not (Smith, 1999). Another study found that trust, particularly specific aspects of respect, risk, and competence, are predictors of both technical and adaptive leadership (Daly & Chrispeels, 2008). Specifically, "the behaviors that reflect genuine listening and recognizing the important role each plays in a system (respect), the degree of confidence in being, and allowing others to be vulnerable (risk), and holding high expectations and using a level of skill in executing role responsibilities (competence) reflect the significant predictors of adaptive and technical leadership" (p. 51). While not focused on education, specifically, a third study found that adaptive leadership is a predictor of greater productivity in the workplace (Silverthorne & Wang, 2001; Wang, 1997).

District Role in Supporting School Leadership

Recognition is growing that addressing the problem, especially in our most needy schools, cannot rely on good teaching or leadership within these schools alone—districts that oversee such schools have a key role to play. Turnaround specialists "need districts to be supportive—by creating strike teams…" and "giving principals the authority they need to disrupt the status quo" (Colvin, 2007, p. 11). Further, the role of urban school districts in supporting strong school leadership is also key (Copland & Boatright, 2006; DeVita, 2007; Haycock, 2007; Hess, 2009; Leithwood et al., 2004; Plecki, Alejano, Knapp, & Lochmiller, 2006; Plecki, McCleery, & Knapp, 2006). Indeed, "school leaders' relationships with their districts are changing. Historically, the lines of communication were largely for reporting and oversight purposes. In the same way that the work of school leaders has become more finely focused on learning, the work of districts is more oriented toward supporting the learning work of schools" (Wallace Foundation, 2009, p. 12). Fundamentally, this implies a shift in the school-district relationship, lines of authority, and implications for practicing leadership at both the school and the district level (Burch & Spillane, 2004; Honig, 2003; McLaughlin & Talbert, 2003; Youngs, 2000).

In Marzano et al.'s (2005) research on school leadership, findings confirm that the district's relationship to its schools matters. These researchers conducted a factor analysis revealing that the magnitude of change, especially where the need for change is more acute, matters. First-order change is incremental and does not disrupt the status quo. Second-order change involves more dramatic departures from the expected, both in defining a given problem and in finding a solution. Marzano et al. (2005) found that the magnitude of change makes a difference in how leadership affects student achievement. Out of the 21 leadership responsibilities found to be related to increased student achievement, 11 are specifically correlated with second-order change (Waters et al., 2003). Seven of these are positively correlated (knowledge of curriculum, instruction, assessment, optimize, intellectual stimulation, change agent, monitor and evaluate, flexibility, ideals and beliefs) and four are negatively correlated (culture, communication, order, and input). This evidence confirms the notion that a specific skill set is required in turnaround efforts, which are, by definition, characterized by second-order change.

According to Cuban (1988, p. 342), cited in (Copland & Boatright, 2006) second-order change "aims at transforming the purpose of schooling and reflects a major dissatisfaction with the existing authority, roles, and structures of the educational system" (p. 19). This gives further credence to the notion that the level of authority a principal has does make a difference in student achievement.

The recent literature on the district's role in supporting school leadership and its role in raising student achievement is evolving. Indeed, as Davis et al. (2005) point out, the context within which school leaders work "matters to the types of competencies and situational knowledge required of school leaders. . . The notions of generic leadership that once dominated the field are being replaced by more contextualized notions of leadership" (p. 14). Leithwood et al. (2004) assert that "like experts in most fields, successful leaders have mastered not only "the basics," but also productive responses to the unique demands of the contexts in which they find themselves" (p. 9). They conclude that "We need to be developing leaders with large repertoires of practices and the capacity to choose from that repertoire as needed, not leaders trained in the delivery of one "ideal" set of practices" (p. 9).

Educational Governance and Decentralization

Four major shifts in the history of educational governance have occurred since the nation and its schools were first formed (Timar & Tyack, 1999). First, local control of schools grew out of the clear distrust of centralized government held by early Americans (Conley, 2003; Stillman, 1996, 2000) and built upon the idea that local people know the community and its children best (Brunner, 1998; First & Walberg, 1992; Loveless, 1998; Theobald & Bardzell, 2000). Second, industrialization prompted new mechanisms for administrative efficiency and a professionalized school system that consolidated hundreds of thousands of small schools to about 16,000 school districts and used business management philosophies as an organizing framework (Callahan, 1962; Timar & Tyack, 1999).

By the 1960s calls for increased competition with Russia and growing civil tensions over racial equality led to an increased federal role in education, particularly through the courts (Conley, 2003). For the first time, all three branches of the federal government became active in shaping the direction of public schooling in this country. Along with new legal requirements for equal educational opportunity, large federal, categorical programs were created fueling growth in state education agencies. Districts responded by creating programmatic silos that contributed to a self-perpetuating bureaucracy (Conley, 2003; Goodlad, 1984; Sarason, 1971, 1996). Categorical programs were established and policy decisions were often made based on what was in the best interest of maintaining the strength and integrity of the programs rather than what was in the best interest of student learning.

The fourth and most recent phase involves an even greater expansion of the federal role wherein higher levels of state and federal investment are leveraged for stronger accountability policies that demand results from schools and districts (Fuhrman & Elmore, 1990). With individual schools identified as the unit of analysis for accountability, pressure increasingly has been placed on school districts to change their governance relationship to schools (Conley, 2003). For instance, the National Commission on Governing America's Schools called on school districts to shift from a "one-size-fits-all" school system to a "more dynamic, diversified, and high performing system of schools" (National Commission on Governing America's Schools, 1999, p. viii). In this new arrangement, increased flexibility and autonomy would be granted to schools, in exchange for increased accountability to the district. The focus is intended to place students and doing whatever it takes to improve the learning of all students at the core of the organization and of every decision.

While only some school districts such as New York, Chicago, Oakland, and others have actively sought to put this form of governance in action, this most recent iteration represents a conceptual shift in the way schools are governed, from a focus on compliance and control—and perpetuation of established programs—to a focus on autonomy, flexibility, and performance, with districts in the role of support and service providers to schools that are increasingly focused on meeting the individual learning needs of every student. Whether through the proliferation of school choice, or increased school autonomy, these efforts represent, for many, an opportunity to empower those closest to students and their learning by aligning decision-making authority with accountability at the school site (Hansen, 2001; P. Wohlstetter & Malloy, 2001).

School Autonomy

The purpose of many of the site-based management efforts implemented in the 1980's and 1990's was to increase the local community's voices in decision-making, especially around curricular choices and preferences (Leithwood et al., 2004; Ornstein, 1983; P. Wohlstetter & Mohrman, 1993). The idea, of course, was to ensure that the curriculum reflected the values of the local community (Ornstein, 1983). Few studies have found, however, that site-based management, by itself, has much effect on student outcomes (Leithwood & Menzies, 1998). Only when accompanied by additional capacity building efforts related to teaching and learning was any evidence of improvement found (Beck & Murphy, 1998). In the school that these authors studied, it wasn't the site-based management itself that caused the school to improve. Rather, it was the way in which having site-based management enabled all stakeholders to become focused on a "learning imperative" to improve learning for all students.

More recent studies do show that school-based management and decentralization may play a role in improving student achievement (Hightower, Knapp, Marsh, & McLaughlin, 2002; Hightower, Knapp, & McLaughlin, 2002; Maslowski, Scheerens, & Luyten, 2007; Togneri & Anderson, 2003; Tung, Ouimette, & Feldman, 2004). Tung et al. (2004) found in a study of Boston's Pilot Schools, which have autonomy over their budgets, curriculum, staffing, and governance, performed better than other Boston Public Schools. These authors report that while the Pilot Schools serve a student population generally representative of the Boston Public Schools, Pilot School students perform well on all available measures of student engagement and performance, and are among the top performing of all Boston Public Schools" (p. i). In their international study looking at PISA 2000 results, Maslowski et al. (2007) found that schools that had more autonomy over personnel management had higher levels of reading literacy, however, this result did not sustain when differences between student demographics within the schools were taken into account.

Waters, Marzano, & McNulty (2006) found that autonomy had an effect, but that the effect was not from pure autonomy, but one that had some limits related to the district's instructional focus. In their research, "defined autonomy" where "clear, non-negotiable goals for learning and instruction" were set while at the same time providing school leadership teams with the "responsibility and authority for determining how to meet those goals" made a difference in raising student achievement (p. 4). McKinsey and Company (2007) also found that site-based management by itself, or, simply changing the structure without a coherent and intentional focus on improving instruction was not sufficient to impact student achievement.

Most of the more recent research on school autonomy tends to focus on identification of the amount of autonomies principals have (or perceive that they have) or don't have and the factors that constrain their decision-making authority. These "autonomy gap" studies seem geared toward better understanding the types of flexibilities that purportedly high quality leaders would prefer, if they had the option (Adamowski et al., 2007; Allen et al., 2005; Coalition of Essential Schools, 2005a). Other studies provide descriptive details of the ways in which autonomies over certain areas (such as over resources) lead to more and better investments in strategies known to more directly make a difference in student learning (M. Roza, T. David, & K. Guin, 2007).

While the research base is limited at best, some evidence does suggest that "more successful district reform initiatives decentralize considerable authority to schools to define student learning needs and to structure the use of professional development resources" (Leithwood et al., 2004, p. 44). These scholars caution, however, that "the trick is for schools to do this in ways that do not fragment the coherence of overall reform efforts across the district," and assert that "more research is needed to clarify the district policy and strategy dynamics that enable this bottom-up/top-down approach to reform" (p. 44).

Defined Autonomy

Waters & Marzano (2006) first discovered what they now call "defined autonomy" as a surprising finding while conducting their meta-analysis of twenty-seven studies of district leadership (Waters & Marzano, 2006). Essentially, these researchers found conflicting results among studies with one study reporting a positive correlation for school autonomy and student achievement while others reported negative correlations. Upon further examination, the researchers coined the term "defined autonomy" to reflect a unique relationship between schools and the district, where schools are given a certain level of authority, but not complete autonomy. Rather, in order to work in the service of student achievement, the autonomy granted to schools should have limits—those that are bound by the non-negotiable goals set by the district. “Defined autonomy means that the superintendent expects building principals and all other administrators in the district to lead within the boundaries defined by the district goals” (Marzano & Waters, 2009, p. 8). They go on to state that “district-level leadership contributes positively to student achievement when an understanding of defined autonomy is shared and honored by all district personnel” (p. 9).

For Marzano and Waters (2009) defined autonomy should not lead to an “anything goes” form of district management. On the contrary, defined autonomy is a critical factor in developing school districts as “high reliability” organizations. “Districts should seek to become high-reliability organizations regarding student achievement and effective instruction” (Marzano & Waters, 2009, p. 87). Becoming a high reliability district necessarily means changes from the status quo in both district leadership and school leadership. According to Marzano & Waters (2009), “While it is true that schools are unique and must operate in such a way to address their unique needs, it is also true that each school must operate as a functional component of a larger system. It is the larger system—the district—that establishes the common work of schools within the district, and it is the common work that becomes the “glue” holding the district together” (pp. 89-90).

The district’s role, according to Marzano & Waters (2009) is to focus schools on the “right” work, which essentially entails “clear goals regarding student achievement and effective instruction at the school level” and defined by the district as non-negotiable (p. 90). While schools should have autonomy around certain operational matters and even the flexibility to innovate, under defined autonomy, they would not be allowed to turn their focus away from these goals.

Striking the right balance around how much autonomy each school ought to receive is also key to district leadership. "Defined autonomy is not a one-size-fits-all approach" (Eck & Goodwin, 2008). Some schools may need more flexibility and "degrees of freedom" than others, depending on the conditions present in within each school.

Innovation Schools

The concept of innovation schools is one that sprouted in Colorado through the passage of a 2008 state law (Colorado Department of Education, 2013) that allows schools to apply through their local school boards for a set of autonomies and other practices. According to the Colorado law, innovation schools have "a high degree of autonomy in implementing curriculum, making personnel decisions, organizing the school day, determining the most effective use of resources, and generally organizing the delivery of high-quality educational services, thereby empowering each public school to tailor its services most effectively and efficiently to meet the needs of the population of students it serves" (Price, Challender, & Walters, 2011). Massachusetts passed a similar law in 2010 granting schools autonomy and flexibilities in up to six areas: (a) curriculum, instruction, and assessment, (b) schedule and calendar, (c) staffing, (d) professional development, (e) budget, and (f) district policy (Massachusetts Executive Office of Education, 2013).

Although conclusive research on the effects of these types of schools has not yet been published, two annual reports from a three-year evaluation of the innovation schools in Colorado have revealed some interesting findings, including some indicators of their success. The first-year evaluation report released in November 2011 looked at the first eight innovation schools in Denver. This study found that most of the schools had not dramatically changed or implemented new or innovative practices after gaining innovation status. Indeed, innovation school leaders acknowledged that while they appreciated having the flexibility and agility to make real-time decisions for their schools, they were implementing their changes more slowly than expected and “the majority of these schools had not made significant departures from their practice prior to innovation” (Price et al., 2011, p. 6).

The ability to make decisions and a greater level of ownership was found among staff and community members of innovation schools. According to the report, innovation led to an increase in the “real and perceived level of control by principals, teachers, and parents” (Price et al., p. vii). Principals felt that they were able to make decisions affecting the school more quickly and without needing to engage the district in an approval process. A positive school culture was found in most of the innovation schools, but this appeared to only be associated with strong leadership (p. viii). Finally, having more flexibility and control over hiring and staffing functions was seen as a key benefit to innovation status, appreciated by all of the school leaders interviewed since it enabled them to opt-out of having teachers direct-placed into their school and for them to hire who they want, when they want, and how they want (p. 15). In spite of these accolades, the study found that the principals faced some barriers to taking full advantage of this autonomy, either through continued district resistance to some of their approaches or to their own inability to devote adequate time to making a success of it (pp. 15-16).

Additional impacts on school culture were found for innovation schools in the second year evaluation report released in November 2012 (Connors, Challender, Paterson, & Walters, 2012). Indeed, according to the report, “Innovation school respondents scored higher on the Climate Survey than those in comparison schools on all measures” (p. iii). Additional analyses showed that innovation schools that had been in operation longer had even higher scores, indicating that benefits of being an innovation school may emerge over time. Some concerning findings for innovation schools included having teachers, on average, with less experience than comparison schools as well as having a higher rate of teacher turnover.

The evaluation offers some insights regarding the underlying reform theory behind innovation schools and the meaning that leaders within the Denver Public Schools place on it. The report maps out a theory of change for innovation schools based on data collected from various Denver district stakeholders. This theory of change places emphasis on the capacity of the school leader to make key decisions, using their increased autonomies which will bring about improvements in student achievement. A copy of this theory of change is shared in the appendix. Also in the report is a summary of nine constructs describing what happens when schools receive innovation status and articulate what district leaders refer to as the “empowerment equation.” These constructs include the following: (a) a climate of innovation and professional learning, (b) collaborative environment, (c) decision-making, (d) development of capacity, (e) sense of empowerment, (f) sense of ownership, (g) pride and fulfillment in work, (h) self-accountability, (i) commitment to high quality outcomes (p. 4).

The year-two study identified some, albeit limited impacts on student outcomes for innovation schools. Innovation schools had higher growth than the state median for growth and showed gradual improvement in student proficiency rates, over time (p. iv). Although these were regarded as hopeful signs, the authors cautioned that it was too soon to tell whether or not these outcomes could be attributed to the innovation status itself since the district as a whole had been improving. Remaining questions about the degree to which schools with innovation status actually exercise their autonomies in manners that can be tied more directly to improved instruction add the final note of caution to attributing achievement outcomes to innovation status. The authors conclude that, "If the innovation school theory of change is accurate, improved student outcomes should be evident in schools where autonomy in decision-making has been exercised for that purpose. This raises additional questions: Have innovation schools actually implemented changes that would require innovation status (as principals reported were planned in interviews in 2011)? Additionally, if changes have been made, how have they been directly related to improving professional practice (as opposed to more organizational re-structuring around budgets, schedules, and hiring practices)? These questions must be answered before an expectation of improved student outcomes can be examined in a meaningful way and distinguished from the expectation that student outcomes improve in all schools in DPS" (p. v).

Managed Instruction

Not to be confused with a more technologically oriented approach to implementing a learning management system (called computer managed instruction), the concept of "managed instruction" as a district reform strategy emerged in the early

2000’s (Aarons, 2009; Aldine Board of Education, 2009; Archer, 2005b; Charlotte-Mecklenburg Board of Education, 2007; Koumpilova, 2011; McAdams, 2000, 2006; McFadden, 2009; Tharp-Taylor et al., 2007; The Broad Foundation, 2013; Vander Ark, 2013; Zavadsky, 2009). This happened as large urban districts that were showing improvements at scale were recognized through the Broad Prize for Urban Education, a highly competitive and coveted prize, awarded annually to a large urban district that demonstrates the greatest overall performance and improvement in student achievement while reducing achievement gaps among poor and minority students (McFadden, 2009; The Broad Foundation, 2013; Zavadsky, 2009). The first award was given to the Houston Independent School District in 2002, which had implemented a large-scale “managed instruction” system along with other complementary reforms, including accountability.

Since then, several other (although not all) Broad Prize winners have credited their system of managed instruction, with their success. In particular, the ways in which managed instruction elevated rigor and expectations, promoted instructional coherence, and utilized aligned assessments and accountability measures—was cited as a key strategy on which their success was based (McFadden, 2009; Zavadsky, 2009). Long Beach, CA, Aldine, TX, and Charlotte-Mecklenburg are some more recent examples of the success of this approach to improving urban education. Indeed, evidence of the intentionality of this approach is reflected across implementation strategies and even the underlying philosophies, policies, and reform theories of action articulated by their local school boards (Aarons, 2009; McAdams, 2006; Charlotte-Mecklenburg Board of Education, 2007).

Managed instruction is characterized by a district-wide effort to invest deeply in the alignment, coordination, and coherence of its curriculum at every grade level, including identification of a clear set of recommended instructional practices that have been shown to produce results with certain populations of students (McFadden, 2009; Zavadsky, 2009). Research on some of the districts that have undertaken this approach have found that each tries to "strike a balance between non-negotiable district-wide guidance about instruction and flexibility for schools to adapt that guidance to the needs of their students. As a group, they spend considerable time defining what excellent instruction looks like" (McFadden, 2009, p. 548).

Although not labeled the same, this approach may resemble what Fullan described above as the "common work of a district" in which teachers are supported to provide "focused teaching…that knows the appropriate instructional response" and is within a "well-designed instructional system" (McFadden, 2009, p. 33). These are what he called "effective sets of learning treatments" or perhaps what Marzano (2008) espoused—that districts need to become "tightly coupled around instruction" in order to improve learning for all students. The similarities seem to have to do with the notion of diagnosing students' learning challenges with respect to learning goals and providing consistent instructional responses that have proven to work, much like a doctor would treat a patient presenting the symptoms of a particular ailment. Deeper investigations of the specific practices associated with these two approaches are needed to determine whether or not and in which ways they are similar or different.

As urban district school leaders search for strategies that will make a difference, many work to replicate this systemic approach found successful in several highly visible districts across the nation. The effort is not always welcomed by teachers and school leaders who may be used to greater degrees of autonomy for curriculum and instruction. In St. Paul, MN, for example, teachers, who had previously worked in an environment where curriculum decisions were made at the school level, "balked" and strongly resisted the district's new approach (Koumpilova, 2011).

Often including various tools such as a scope and sequence, pacing guides, scripts, and aligned assessments, the effort, if not managed in ways that engage teachers and other stakeholders along the way, can seem very rigid and top-down (Vander Ark, 2013). As one of the nation's most successful districts that had used this approach learned, it is important to keep pushing for consistency, but at the same time, allowing for some flexibility and creativity to emerge According to the Charlotte-Mecklenburg Chief Academic Officer, this district's early days of implementing managed instruction "was a very prescriptive approach…that didn't allow for much flexibility or individualized instruction. " Today, the district still pushes for the consistency needed, but has clarified where flexibilities are allowed. "What's still nonnegotiable is the 'what.' The 'how' is more up to the teacher." (Koumpilova, 2011, p. 4).

Tom Vander Ark's recent blog post raised some important questions and considerations regarding schools (such as charter schools or charter networks attempting to achieve similar levels of instructional consistency and coherence) and district's efforts to strike the right balance here (Van der Ark, 2013). In the blog he contrasted those attempting to implement a managed instruction approach in ways that can feel "stifling" with those that work to engage teachers in the process. He concluded that "I think coherent school models—where everything works together for students and teacher—are really important to producing and sustaining high levels of performance. How you get to coherence can determine commitment and fidelity. Bottoms-up may be haphazard; top-down breeds resentment; an engaged community of adult learners is clearly the best choice" (p. 2).

Implications of the Research

As scholars and education leaders become more interested in identifying more precise school-based factors that raise all students' achievement, it is clear from the research that the quality and type of school leadership practiced together with the relationship that districts have with their schools both have some role to play. It is also clear that both of these must be applied, not for their own sake, but in the service of providing high quality instruction for every student. For, neither leadership nor school autonomy, alone, will sufficiently improve conditions for high quality instruction to occur in schools, unless that leadership and autonomy are focused primarily on the consistent improvement of instructional practice in every classroom, for every single student. That is why effective school leadership must include the application of a certain level of technical skill in instructional leadership (*technical leadership*). To mobilize all teachers toward new practices and behaviors related to instruction, along with other community and/or political engagement needed, *adaptive leadership* is needed. To operate effectively and with enough flexibility and adaptability to be ever more responsive to increasingly precise student needs, autonomy is needed. To operate autonomously while drawing from a consistent and coherent curriculum and defined sets of instructional practices as teachers become more focused on improving instructional practice, *defined autonomy* is needed. Together, I posit, these three key variables may produce the kind of capacity that would successfully turn around low performing schools, and if in existence on a broad enough scale within a district, a whole system of schools.

Research on the nature of adaptive leadership needed for successful “turnaround” of low performing schools is greatly needed. Additional and more up-to-date research on the role of school autonomy (defined or otherwise) in improving school performance is also needed. No research currently analyzes the relationship between these two factors in the context of an urban school district let al.one their combined impact on school improvement results. This study not only adds to the growing literature on urban school leadership, and “turnaround” leadership in particular, as well as that related to district decentralization and school autonomy, but makes a significant contribution to better understanding the changing nature of new school-district relations and decision-making authority and patterns in urban school districts.

CHAPTER III

METHODOLOGY

Introduction

This chapter provides an overview of the study purpose, research questions, and the research design. Details about the processes used to develop the urban principal survey, including a summary of findings from key informant interviews that were used to guide the construction of the autonomy and defined autonomy items within the survey are provided. In addition, a discussion of the steps taken to pilot and validate the survey is included along with results of reliability tests for the major scales measuring each of the key variables in the study. A summary of the study participants and sampling procedures is presented along with the approach to data collection. Finally, a synthesis of and rationale for the data analysis methods used are provided.

Overview of Research Design

The research questions that guided the study are as follows:

1. What are the levels of technical leadership, adaptive leadership, and defined autonomy among Denver school leaders? Do any Denver school leaders have high levels of all three variables?
2. What is the relationship between these three variables and each of them with school growth gains?
3. Do school leaders with higher levels of technical leadership, adaptive leadership, and defined autonomy achieve a higher rate of growth in their school's improvement, as measured by gains in the growth composite score

on Denver's School Performance Framework (SPF)? Do any other factors make a difference in school growth gains?

4. Is the hypothesis that school leaders that have high levels of technical leadership, adaptive leadership, and defined autonomy achieve higher rates of school growth gains true?

Population

The study was focused on school leaders within an urban school district, the Denver Public Schools, where the two factors of leadership and defined autonomy had become key reform strategies. This population was selected based on my knowledge of the district, familiarity with the school reform agenda in Denver, and deep, personal commitment to understanding whether or not and which aspects of the district's reform efforts were effective in improving student outcomes. As a member of the district's school board from 2005 to 2009, I was a part of the district leadership team that conceptualized the Denver Plan, including the simultaneous focus on improving school leadership development, increasing instructional coherence and consistency through a managed instruction approach while at the same time expanding opportunities for school leaders to have autonomies in the areas of people, time, and money. At the same time, I had become familiar with the Waters & Marzano (2005) concept of defined autonomy while working at the Mid-Continent Research for Education and Learning (McREL). This connection led me to the proposed research question and to select Denver Public Schools as the primary location for the research. Inclusion of school leaders from additional districts that were pursuing similar reforms such as Aurora Public Schools as well as Boston Public Schools was considered, but not pursued due to time constraints and other limitations.

Denver Public Schools (DPS) is the second largest school district in the state of Colorado serving 84,424 students in 176 schools—79 elementary, 23 K-8, 35 middle schools, 3 K-12 schools, and 36 high schools—employing 5,245 teachers. About three-fourths of the students in the district come from low-income households with 72% of DPS students receiving free or reduced-price lunch. The student population is among the most diverse in the state with 58% of students identified as Hispanic, 20% White, 15% Black, 3% Asian, 3% Other, and 1% Native American. Approximately 35% of DPS students are English Language Learners, about 11% of students in the district receive special education services, and 12.8% are enrolled in gifted and talented programs (Denver Public Schools, 2013). Table 3.1, in the next section, provides a comparison of the district's demographics with those of the schools in the sample.

Although the district remains one of the lowest performing in terms of average achievement in the state (consistently falling well below the state average for CSAP scores in reading and math) its growth scores, as measured by the Colorado Student Growth Model (Colorado Department of Education, 2013a) consistently outperform the state. In the Colorado Student Growth Model, the state median growth percentile is 50. According to a state report summarizing districts' growth, a district with a median growth percentile above 50 is growing at a faster rate than the state and a district with a median growth percentile below 50 is growing at a slower rate than the state (Colorado Department of Education, 2013). While this is indeed good news, the key question and challenge for DPS is whether or not this pace of growth, although faster than the state, is fast enough, or adequate enough to catch all students in Denver up to grade level in time for them to graduate. Most who follow the progress in DPS would agree that while the modest gains in growth are to be commended, there is still a long way to go to achieve the goal of adequate growth. Table 3.1 presents a summary of the district's performance from 2010-2012 as compared with the state (Colorado Department of Education).

Table 3.2 Summary of 2010-12 Denver Percentage of Students Scoring Proficient or Better on CSAP

	Percent Proficient or Advanced-State	*Percent Proficient or Advanced-Denver*
2012		
Reading	74	53.45
Math	71	53.67
2011		
Reading	73	50.9
Math	70	42.8
2010		
Reading	70	52.3
Math	71	39

Colorado law allows for the creation of different types of schools to operate with varying degrees of autonomy and flexibility in order to promote innovative models for improving student learning. Charter schools—schools that operate with maximum autonomies—were established by the state legislature in Colorado beginning in 1993, and in Denver, are authorized exclusively by the local school board. Currently, there are 41 charter schools in operation within DPS. Innovation schools are a more recent concept defined by 2008 state legislation and are able to operate with certain autonomies when certain conditions are met (Colorado Department of Education, 2013b). These types of schools are also authorized by the local school board. Currently, 28 innovation schools operate in DPS (Colorado Department of Education, 2013c). The remaining 107 schools are what is known as traditional schools and as such must follow all of the state, union, and district regulations that have been established. Within each of these categories of school type there are additional designations that refer to specific programmatic themes that a school might have. These include, for example, magnet schools, which offer a specific, theme-based program within a district, and thus attracting students with a specific interest that matches that program. A total of 27 of the district's schools have an established magnet program. Alternative school is another designation referring to a high school program that offers an alternative pathway toward graduation (more recently referred to as intensive pathway). DPS currently has 11 alternative or intensive pathway schools. Table 3.8, in the next section, provides a summary of the different types of schools within DPS compared with those in the sample.

Although there are currently 196 schools within DPS, during the time of data collection (2009-2011) there were 163 schools and correspondingly, 163 school leaders. The demographic information for the district pertaining to school leaders reflects the data for the 2010-11 school year. During that time, the majority of school leaders in DPS were female (98 out of 163, or just over 60%) and 40% were male (65 principals). The vast majority of school leaders during that time were White/Caucasian (106 or 65%), 44 (27%) were Latino/Hispanic, 10 (6%) were Black/African American, and 3 (2%) were Asian. No data were available identifying the experience levels, preparation programs attended, degree of participation in professional development, and other such variables included in the survey for the entire principal population. Table 3.2, in the next section, provides a comparison of the school leaders' demographics with those in the sample.

DPS' Approach to School Reform

DPS is a district that has, since 2005, prided itself on using the tools of "performance empowerment" as a cornerstone of its reform efforts (Denver Public Schools, 2009; 2012). In Denver, this has been operationalized through the establishment of the School Performance Framework (SPF), which is an accountability tool that holds high expectations for all schools, and the application of various incentives, including autonomies to empower school leaders to improve results on the SPF. Indeed, a performance management philosophy underlies nearly all of the reform efforts underway in Denver—from its school accountability framework to its pay-for-performance plan to its efforts to reorganize the core functions of the central office, and to the way in which it manages or oversees its schools. Over the past several years, the district has evolved toward what some have referred to as a portfolio management approach to management and oversight of a variety of different kinds of schools.

Prior to 2005, however, an earlier effort to generate a greater degree of consistency, quality, and coherence in curriculum and the instructional approaches applied took root. Known as managed instruction, this approach had proven to be successful in several large urban school districts such as Charlotte-Mecklenburg, North Carolina, Aldine, Texas, and Long Beach, California (McAdams, 2006; The Broad Foundation, 2013; Zavadsky, 2009). To mitigate the effects of a highly mobile student population and a high rate of teacher turnover, Denver had been consistently working since 2004 to centralize its core curriculum across the district. While the onset of the performance empowerment approach to reform represents a more decentralizing approach and seems to run counter to this centralizing strategy, DPS leaders believed that both approaches had merit and sought to pursue both at the same time and worked to strike some level of balance between the two. The philosophy behind this effort to balance these reforms is best explained through the school board's Theory of Action document, adopted in June 2009 (Denver Public Schools, 2009). This document states that,

> "The district's revised Theory of Action combines existing elements of our current system of centrally managed instruction with new elements of 'Performance Empowerment.' The district will continue to centrally manage core elements of the instructional model, the components of which are a baseline core curriculum, coordinated professional development, and interim formative assessments…Balancing the benefits of a common core curriculum and centralized support for instruction with flexibility to differentiate both instruction and professional development is key to our theory." (p.1)

Regarding Performance Empowerment, the document describes its three pillars: capacity, autonomy, and accountability (Denver Public Schools, 2009). "DPS will dedicate itself to building capacity in classrooms, schools, and at the district level by focusing on the recruitment, retention, development, and rewarding of excellent teachers and principals," describes the pillar for capacity. To explain autonomy, the document states, "DPS will augment its centrally controlled instructional practices by promoting autonomy for schools in the areas of people, time, and money. The concept is to provide critical supports to schools while ensuring the autonomy is closely coupled with accountability for results" (p. 1).

All of this is located within the new accountability framework described above, but the district policy goes on to describe its approach to supporting and incentivizing educators to achieve results as well as some of the consequences that can be expected if results are not realized within a certain period of time. In describing accountability, the policy document states, “Accountability ensures that the district, schools, and individuals are held responsible for results through rewards, interventions and consequences. DPS will support accountability through its new accountability policy and the School Performance Framework (SPF)… Incentives will be used to drive and reward accomplishment of district goals while interventions for struggling schools may include allocation of additional resources, personnel changes or school closure. The creation of innovative new schools will be utilized to replace failing schools, respond to community needs and provide options for students with different learning styles in each quadrant of the city” (Denver Public Schools, 2009, p. 1).

Sample

This section provides a summary of the demographic and other characteristics found in the sample studied. In particular, this section focuses on the characteristics of the school leaders who responded to the survey.

School Leaders in the Sample

This section focuses on the characteristics of the school leaders who responded to the survey. In 2010, the year in which the survey was administered, Denver had 163 schools and 163 school leaders (including charter school leaders). In spring 2010, email addresses for all school leaders were obtained from district staff. Invitation emails describing the purpose and focus of the study, the timeframe, a link to the online survey, and an offer of a small incentive for participation were sent to all 163 school leaders. School leaders were given four weeks to respond. A copy of the invitation email is included in Appendix A. Two reminder emails were sent within two weeks and another within a few days of the deadline in an effort to encourage a higher response rate. In the end, 57 school leaders responded to the survey. Of these, 4 declined to participate after reading the built-in consent forms that were included in the beginning of the online survey. Five cases had school leaders that soon left their positions and therefore a corresponding net gain in school growth gains for their school that was aligned to their tenure could not be calculated, and therefore, these cases were removed from the analysis. In the end, a total of 48 school leaders provided partial responses to the survey, and in particular, enough responses to complete one of the primary scales in the study, technical leadership. Unfortunately, a total of 18 principals dropped out at different points along the way, leaving the remaining questions unanswered at different stages of the survey, and as a result, incomplete responses within most of the key scales of interest. Ultimately, 31 respondents completed enough items to formulate complete scales for the primary analyses, but only 30 respondents completed all of the questions in the survey, including the demographic questions at the end. Since most of the demographic questions were positioned at the end of the survey, a complete set of information is available for only the 30 respondents who finished the survey. The demographics and other information summarized below are in most cases based on the 30 school leaders who submitted complete responses.

The school leaders in this sample appear to reflect the gender and diversity of school leaders within the district as a whole. Of the 30 principals with completed responses, 18 (60%) were female and 12 (40%) were male. Twenty-one of the 30 (70%) said they were White/Caucasian, six (20%) identified themselves as Latino/Hispanic, and three (10%) said they were Black/African American.

Data on the age of all school principals in the district were not available. Survey respondents indicated that the majority in the sample were over 40 years of age with about a third (16 or 53.3%) in the age range of 40-49 years old, 16.7% (five principals) were 50-59 years old, four (13.3%) were 60-69 years old. Four principals (13.3%) were 30-39 years old, and one (3.3%) was 20-29 years old. Table 3.2 summarizes the demographics of the school leader sample and compares them with that of the district.

Table 3.2 Comparison of Principal Demographics in the Population and Sample

	Population	*Sample*
Gender		
Female	60%	60%
Male	40%	40%
Race/Ethnicity		
White/Caucasian	65%	70%
Latino/Hispanic	27%	20%
Black/African American	6%	10%
Asian/Pacific Islander	2%	0%
Age		
20-29	Not available	3.3%
30-39		13.3%
40-49		53.3%
50-59		16.7%
60-69		13.3%

Most of the principals in the sample had fewer than five years experience as school leaders (at the school they were leading during the time the survey was taken). The majority (18, or 60%) claimed to have 2-5 years of experience working as a school leader in their current school and eight (26.7%) said they had been a principal at their current school for only one year. Three principals (10%) had been leaders at her or his current school for 6-10 years and only one principal (3.3%) had been at her or his school for more than 11 years.

When asked how many years of experience they had serving as a principal in any school, more indicated a greater level of experience, however, the majority of respondents still claimed to have less than five years experience as a principal in any school. A total of 13 principals (43.3%) said they had 2-5 years of experience as a principal in any school and six (20%) said they had only one year of experience as a principal in any school. Seven principals (23.3%) said they had more than 11 years experience as a principal in any school and four (13.3%) had between 6-10 years experience as a principal.

About two-thirds (66.7%) said they had served as an assistant principal before becoming a principal and one-third (33.3%) had not. While the vast majority (91.7%) had teaching experience, a handful (8.3%) did not. The majority (63.3%) reported working in DPS for more than 11 years, another 20% said they had worked in DPS for 6-10 years, 10% worked in the district for 2-5 years, and two principals (6.7%) worked in DPS for only one year. Table 3.3 outlines the experience levels of the school leader sample.

Table 3.3 Summary of Denver School Leader Experience

	Years as Principal in Current School	*Years as Principal in Any School*	*Years worked in DPS*	*Experience as an Assistant Principal*	*Experience as a Teacher*
1 yr	26.7%	20%	6.7%		
2-5 yrs	60%	43.3%	10%		
6-10 yrs	10%	13.3%	20%		
11+ yrs	3.3%	23.3%	63.3%		
Yes				66.7%	91.7%
No				33.3%	8.3%

Principals were also asked to identify the type of preparation program that they attended. Nearly three quarters of respondents (72.9%) said that they attended a traditional, university-based preparation program. Several of the principals (9, or 18.8%) said they had attended the DU Ritchie principal preparation program. Only one principal (2.1%) was prepared through a national preparation program and one other (2.1%) had participated in an alternative licensure program. The principals were also asked to indicate whether or not they had received on-the-job training as part of their preparation. Only one-third of the principals said that they had received on-the-job experience during their principal preparation program. Table 3.4 summarizes the preparation programs that principals in the sample attended as well as the degree to which they received on-the-job experience as part of their preparation.

Table 3.4 Type of Principal Preparation Program Attended

Preparation Program Attended	*Percentage Attending*
Traditional university-based	72.9%
DU's Ritchie Program	18.8%
National program	2.1%
Alternative licensure program	2.1%
Had on-the-job experience	33%
Other	16.7%

School leaders were also asked to rate the quality of the principal preparation program that they attended. Most of them rated their program as either good or great (52% rated it as great and 33% rated it as good). Another 12% rated their preparation program as fair and one principal (2.1%) rated her or his preparation program was poor.

The vast majority of the principals said that they participated in the DPS-sponsored professional development for school leaders either some or a significant amount (18, or 60% said they participated a significant amount and 6, or 20% participated some). Five principals (16.7%) participated in DPS principal professional development very little and one (3.3%) did not participate at all. Responses were mixed regarding their views on the quality of the DPS principal professional development. About half said that it was either good or great (13.3% said it was great and 40% said it was good) and the other half said it was either fair or poor (26.7% said it was fair and 16.7% said it was poor). Table 3.5 summarizes principals' participation in DPS or other professional development as well as the quality ratings assigned to them by principals.

Table 3.5 Participation and Quality Ratings for Principal Professional Development

Category	*DPS Professional Development for Principals*	*Outside Professional Development for Principals*
Level of Participation		
Not at all	3.3%	6.7%
Very little	16.7%	16.7%
Some	20%	40%
A significant amount	60%	36.7%
Quality Rating		
Poor	16.7%	0%
Fair	26.7%	46.7%
Good	40%	30%
Great	13.3%	20%

When asked whether or not they had been evaluated by a supervisor within the past two years, 70% (21) said that they had and 30% (9 principals) had not. Of those who had been evaluated, the vast majority (18 or 60%) indicated that they had met al.l of the standards that were relevant for that year's principal evaluation process in the district.

One (3.3%) claimed to have exceeded the standards. Another (3.3%) indicated that he or she met most of the standards. One (3.3%) reported meeting some of the standards.

The school leaders were also asked to indicate whether or not they had ever been recognized or received an award for their leadership. The majority of respondents (16 out of 30, or 53.3%) had never received such an award. Fourteen (46.7%) of the school leaders indicated that they had received an award for their leadership. Most (70%, 21 principals) said that they had also received some level of incentive pay as a school leader. Of these, nine (43%) indicated that they received incentive pay for serving in a hard-to-staff school, 15 (71%) had received an incentive for increasing student results, 12 (57%) had received incentive pay for implementing a school improvement plan, and 4 (19%) said other, indicating that they had received incentive pay for another reason. Nine of the principals (30%) had not received incentive pay of any type. Table 3.6 summarizes principals' evaluation, recognition, and incentive pay received.

Table 3.6 Profile of the Principals' Evaluation, Recognition, and Incentive Pay Received

	Evaluated in last 2 years	*Received recognition or award*	*Received incentive pay*
Yes/No Response			
Yes	70%	46.7%	70%
No	30%	53.3%	30%
Performance on Evaluation Standards			
Met some	3.3%		
Met most	3.3%		
Met al.l	60%		
Exceeded all	3.3%		
N/A	30%		
Type of Incentive Pay Received			
Hard-to-staff school			43%
Increased student results			71%
Implemented school improvement plan			57%
Other			19%

Schools in the Sample

This section describes the characteristics of the schools that were led by each of the school leaders in the sample, during the timeframe of the study (2010-2012). Although only 30 school leaders provided complete responses to all of the survey questions, a total of 48 provided partial responses, and were relevant to some of the analyses. Therefore, the demographics of the sample with respect to schools is based on 48 schools and school leaders. The total enrollment in the schools included in the sample was 23,650 and there were 19 elementary schools, 6 K-8 schools, 11 middle schools, 2 6-12 schools, and 10 high schools. The student population across these schools was 71.64% receiving free and reduced-price lunch, 75.3% were non-White, 24.07% were English Language Learners, and 12.67% were students who received special education services. Table 3.7 compares the enrollment and student demographic information in both the population and the sample.

Table 3.7 Comparison of School Enrollment and Demographics in District and Sample

	District[a]	*Sample*
Total Enrollment	84,424	23,650
Total # of Schools	176	48
Grade Levels of Schools		
Elementary	79 (45%)	19 (39.5%)
K-8	23 (13%)	6 (12.5%)
Middle	35 (20%)	11 (23%)
K-12	3 (2%)	2 (4%)
High School	36 (20%)	10 (21%)
Student Population		
FRL	72%	71.69%
Minority	65%	75.3%
ELL	35%	24.07%
SPED	11%	12.67%

[a] includes charter schools

The school leaders presided over each of the different types of schools authorized to operate with different levels of autonomy in Denver Public Schools. The majority (60.4%) served as leaders of traditional schools. Twenty-five percent (25%) of the principals were leaders of charter schools and 14.6% were principals at innovation schools. Twelve of the schools had an additional designation. Six (12.5%) were identified as alternative schools and six (12.5%) were identified as a magnet school.

The school leaders were asked to identify the phase of development their school was in. A total of 30 school leaders provided complete responses to this set of questions. The vast majority of respondents indicated that their school was either in a sustaining phase (11 or 36.7%) or a stabilizing phase (9 or 30%). Six school leaders (20%) said that their school was in a conversion or turnaround phase and four school leaders (13.3%) indicated that their school was in a start-up phase. Table 3.8 compares the types of schools in the sample with those across the district as a whole.

Table 3.8 Comparison of School Type, School Programmatic Designations and School Developmental Phase

	District	*Sample*
School Type		
Traditional school	107 (60.7%)	29 (60.4%)
Innovation school	28 (16%)	7 (14.6%)
Charter school	41 (23.3%)	12 (25%)
Programmatic Designation		
Alternative school	11 (6.3%)	6 (12.5%)
Magnet school	27 (15.3%)	6 (12.5%)
Developmental Phase		
Start-up	--	4 (13.3%)
Conversion/Turnaround	--	6 (20%)
Stabilizing	--	9 (30%)
Sustaining	--	11 (36.7%)

Survey of Denver School Principals

The underlying purpose and primary focus of the survey was to measure the levels of technical leadership, adaptive leadership, and different forms of school autonomy among Denver school leaders. The survey also included additional contextual factors such as experience, type of preparation program attended, participation in professional development, rewards and recognition (including incentive pay), school type, and standard demographic variables such as age, gender, and race/ethnicity. The survey was developed in four phases.

First, research was conducted to identify if any existing measures or survey items that had been used to measure any of the above constructs in previous research could be worthy of consideration. Permissions were sought and granted to use some of these items in my survey. Second, steps were taken to construct the remaining items to include in the survey. This step involved interviews with key opinion leaders with knowledge in the area of school autonomy, additional document analysis and research, and reviewing several drafts of the survey with my then dissertation advisor, Rodney Muth. In the third phase, the survey was piloted with a small sample of education leaders who provided feedback on its content and suggested revisions. In the fourth phase, the survey was revised based on the pilot feedback and finalized for use with Denver school principals. The following section describes the decision points and key factors involved in the selection and/or development of each of the primary survey scales in more detail.

Developing the Technical Leadership Scale

In this study, the concept of technical leadership represents all of the standard leadership practices that an effective leader of any school would need to implement. I wanted to use current standards and since the Council of Chief State School Officers (CCSSO) had just revised the Interstate School Leader Licensure Consortium (ISLLC) standards for effective school leadership practice in 2008 (Council of Chief State School Officers, 2008) (the previous ones had not been revised since 1996), I decided that I would use these as a basis for creating an effective school leadership measure that would be used in the survey.

A total of 33 statements of practice designed to measure the six broad concepts outlined in the 2008 ISLLC standards were developed. Principals were asked to read each statement carefully and consider how effectively they thought they implemented this practice at their current school. They were then asked to rate how they thought their staff would rate their effectiveness implementing each of the practices on a scale of 1 through 5 where 1 was needing considerable development in the practice, 2 was needing some development, 3 was competent, 4 was effective, and 5 was very effective. Although the approach of asking principals to respond to the survey based on their staff perceptions was less direct than asking them their own views on their effectiveness, this approach was used as a way to mitigate against principals over-inflating their effectiveness on a self-reported scale such as this. Other means of minimizing this self-reporting bias were discussed and considered, such as a survey of teachers within each school as well as a questionnaire or interviews with the instructional superintendents, but they were unfeasible given the scope and timeframe of the study, leadership turnover within the district, and my own availability. An overview of the 33 statements of practice, aligned to each of the six ISLLC standards is presented in Table 3.9.

Table 3.9 Principal Practice Statements Aligned to 2008 ISLLC Standards

Standard	*Principal Practice Statement in the Survey*
Vision, Mission, and Goals	I set high expectations for all in my school. I develop a shared commitment to implement the vision, mission, and goals of my school. I have successfully gained the genuine commitment of all stakeholders in my school. I focus on continuous improvement toward achieving the goals of my school. I collect and use data to assess organizational effectiveness. I evaluate progress toward meeting goals.
Teaching and Learning	I have established a strong professional culture within the school. I promote a rigorous approach to curriculum and instruction. I continuously monitor teaching and learning in my school. I support the continuous improvement of instructional practice in my school. I use performance measures to monitor student progress and identify strategies for improvement. I create a personalized learning environment for students in my school. I develop the instructional capacity of my staff. I develop the leadership capacity of my staff. I maximize time spent on quality instruction in my school. I promote the use of appropriate technologies to support teaching and learning.
Managing Organizational Systems	I manage the organizational operations of my school. I ensure a safe environment in my school. I distribute leadership responsibilities in my school. I hire highly qualified staff to work in my school. I align resources to support teaching and learning in my school.
Family and Community Engagement	I actively collaborate with families and parents. I mobilize community resources to improve teaching and learning. I analyze data pertinent to the educational environment for my school. I promote appreciation for the community's diversity in my school.
Ethics and Integrity	I demonstrate appropriate ethical behavior expected by the profession. I maintain high standards for my own professional learning. I model principles of reflective practice. I ensure that individual student needs inform all aspects of schooling.
The Education System	I help to improve the broader context of the education system. I engage in policy making related to my school. I act to influence district decisions affecting student learning. I analyze emerging trends in order to adapt leadership strategies

Developing the Adaptive Leadership Scale

An established measure of adaptive leadership, the Adaptive Leadership Profile (ALP), was identified through prior research. The ALP was originally designed to assess adaptive leadership capacities in individuals. According to the authors, "The Adaptive Leadership Profile is the result of years of development by leadership experts and statisticians. The profile assesses the following four quadrants of adaptive leadership capacities: Diagnosing the Organization, Mobilizing the Organization, Diagnosing Oneself, and Deploying Oneself. The profile is a powerful learning tool and often acts as a useful starting point for increasing your ability to adapt and be effective" (Cambridge Leadership Associates, 2008).

Although this measure is largely proprietary and used by Cambridge Leadership Associates in their international leadership consulting work, an opportunity to connect with one of its lead authors, Marty Linsky, through a summer program I attended at Harvard University, enabled me to request permission to use it in my study. Permission was granted and the individual survey items and their corresponding sub-scales were shared via email. When asked if it had ever been tested for reliability, a member of the Cambridge Leadership staff reported that in prior use, its reliability had been reported with a Cronbach alpha of .65 (Martin, 2009).

The ALP contains a total of 61 items designed to measure 12 different adaptive leadership competencies, including (a) acting politically, (b) distinguishing technical from adaptive challenges, (c) knowing your purpose, (c) knowing your defaults, (d) knowing your role in the system, (e) orchestrating conflict, (f) owning your own piece of the mess, (g) staying in the game-staying alive, (h) thinking politically, (i) thinking systemically, (j) using interpretations experimentally, and (k) willingness to exceed your authority.

Each item is a statement of organizational behavior. In the survey, principals were asked to read each statement and indicate the frequency with which they behave in the manner described in the statement. Instructions also included a prompt for principal to consider the term "organization" as referring to their current school, district, or charter management organization. Responses were rated on a Likert scale of 1 through 7 with 1 corresponding to a response of almost never, 2 a response of never, 3 was occasionally, 4 was sometimes, 5 was often, 6 was usually, and 7 indicated a response of almost always. Table 3.10 lists each of the survey items and the corresponding competencies that they measure.

Table 3.10 Organizational Behavior Statements Aligned to Adaptive Leadership Competencies

Adaptive Leadership Competency	*Statement of Organizational Behavior in the Adaptive Leadership Profile Used for the Denver Principal Survey*
Acting Politically	When leading a change process, I spend a lot of time meeting with the most vocal resisters.
	I understand that the behavior of my boss is feedback about my reaction from the rest of the organization rather than the boss' personal view.
	When firing someone, I keep the conversation as direct and brief as possible.
	I am willing to compromise my vision to incorporate perspectives that are hostile to my own.
	When tackling difficult challenges, I expect that I might disappoint some people I care about.
	I find myself being the only person voicing a point of view on a particular issue in a group.
Distinguishing Technical from Adaptive Challenges	I identify when an organizational challenge will require learning new behaviors.
	I identify when using external expertise will not address the problem at hand.
	I see when a proposed action will only provide a temporary solution to an organizational challenge.
	When addressing a challenge, I recognize when loss for individuals and groups will result.
	I recognize when it is more important to have the right people and interests engaged in addressing challenges rather than implementing my own preferred outcome.

Table 3.10, cont.

Knowing Your Purpose	I can articulate a personal definition of what is important in life. I recognize how day-to-day decisions fit into a bigger picture. I can articulate what would be worth leaving the organization over. I distinguish between making short-term progress and preserving enduring important purposes when they conflict. When confronted with compelling, competing personal values, I choose which one takes priority.
Knowing Your Defaults	I recognize when I am being used by the group or organization to avoid difficult issues. I recognize when my own behavior change will be required if the challenge is to be addressed effectively. I act outside of my own comfortable ways of doing things when those preferences are interfering with progress. I take attacks personally.
Knowing Your Role in the System	I know when my formal role gets in the way of making progress. I can name what is expected of me that is beyond my formal role. My capacity to do my job well comes mostly from my expertise. I know what stereotypes I represent for my colleagues. I seek to treat my professional colleagues as personal friends.
Orchestrating Conflict	Before or at the beginning of meetings, I create explicit ground rules and norms that encourage participation and engagement, while allowing for vigorous dissent. I get the group to resolve their difficult issues themselves, even if I have a preferred outcome. I surface unspoken conflict and disagreement even when it is disruptive. When leading the team, if members distract the group's work, I stop the work and comment on their impact. I am willing to risk having difficult conversations about work issues. I nurture conflict as a critical resource for dealing with difficult issues.
Owning Your Piece of the Mess	When addressing a problem, I begin by naming my own contribution to it. I acknowledge the unintended negative consequences of my own actions. I apologize in public after having made a mistake. I am willing to be vulnerable in front of co-workers in order to advance the purposes of the group. I say "I don't know" when that is the case.
Staying in the Game-Staying Alive	I routinely schedule time for personal reflection. I avoid working beyond physical limits and endurance. I treat my own health as a critical resource. I manage my relationship between work and my personal life well.
Thinking Politically	I put myself in others' shoes to understand what they see at risk and what could be gained on an issue. I recognize what particular alliances will be required to achieve a purpose. I identify which stakeholders need to be engaged to advance an issue. I seek out the unspoken interests and loyalties of each stakeholder group. I identify factions relevant to the issue.
Thinking Systemically	I recognize the effect of the organization's processes on goal achievement. I recognize the impact of the organization's environment on individuals' performance. I recognize when there is a gap between espoused values and patterns of behavior in the organization. I recognize the effect of the organization's culture on goal achievement.
Using Interpretations Experimentally	I challenge colleagues to name the interests that underlie their behaviors rather than take their explanations at face value. When the group is wrestling with a difficult problem, I surface disagreements rather

Table 3.10, cont.

	than agreements.
	When members of my team are in conflict, I look to the organization's dynamics rather than focus on the personalities involved.
	I raise group dynamics issues whenever they are impacting the effectiveness of the group.
	When the group is working on a tough issue, I keep the conversation going rather than accepting the first solution that makes sense.
	I act decisively on one interpretation of a problem and still remain open to acting on alternatives.
Willingness to Exceed Your Authority	I take the risk and accept the consequences of exceeding authority to make a decision that will be good for the organization.
	I risk experiencing the disapproval of people in authority to do what is in the best interest of the group.
	I move off of long held positions when a change of direction is necessary.
	I treat resistance as evidence that a hard problem is being addressed.
	I stay open to alternative actions, even when I am clear about what to do.
	I act to change a situation when the organization's actions do not match its espoused values.

Developing the School Autonomy and Defined Autonomy Scales

My research yielded very few established measures of school autonomy that were relevant to current school and district situations. Many of the instruments that had been used in the past were more focused on measures related to the concept of site-based management looking at aspects of community involvement in decision-making as opposed to the type of school autonomy in which I was most interested. For this study, I was seeking a way to measure specific aspects of operational and/or school reform autonomy that would measure a school's relationship to its district (or other managing organization) on specific aspects of decision making for a school.

Through my review of the literature on school autonomy, I discovered two surveys that had been recently used to measure this concept. The first, by the Coalition of Essential Schools (Coalition of Essential Schools, 2005a) and the second in a 2007 study by Adamowski, Therriault, and Cavanna called The School Autonomy Gap. This survey, although not formally validated, was reviewed by a panel of experts to provide confirmation of face validity of the items. The items within this survey were examined and most were directly relevant to what I had hoped to measure in this study. I decided to use it as a foundation, but built on it with additional items that were needed to measure the remaining aspects of autonomy and defined autonomy.

To develop the rest of the items for the school autonomy and defined autonomy scales, I conducted a series of interviews with key opinion leaders from the field. Seven key informants were interviewed. Four were school district leaders who set policy and make decisions related to school autonomy within the Denver Public Schools. Three were nationally recognized experts and scholars in the field of principal and district leadership who have focused on the role of school autonomy in their work.

The purpose of the interviews was to identify a range of perspectives on the role of school autonomy in turning around low-performing schools. Responses were used to help construct survey items to measure school principals' perceptions about school autonomy and its role in their efforts to lead improvements in schools. Informants were asked to answer general questions about school leadership, to define school autonomy as well as the conditions under which it should or should not be granted, and to share their perceptions about the role of school autonomy in turning around low performing schools. In addition to these questions, DPS district leaders were also asked to share their views about what steps the district had taken to increase school autonomy, the underlying philosophy behind its approach, and the impact it has had on principals. These informants were also asked to identify areas where the district has served as a facilitator and/or a barrier to achieving greater levels of autonomy in the schools. Finally, all informants were asked to share recommendations for constructing survey questions to identify principals' views on the subject. A list of the key informants who were interviewed can be found in Appendix B along with a copy of the interview questions that were used.

The interview items were developed by myself, in consultation with Professor Rodney Muth, my dissertation advisor at the time. The interviews took approximately one hour each. Copious notes were taken and once all interviews had been completed, results were compiled and analyzed using qualitative methods to identify key themes that emerged from the data (Bernard, 1995; Geertz, 1973; LeCompte & Schensul, 1999; Saldaña, 2009). The data were analyzed both deductively—in relation to key themes and concepts associated with the literature on technical leadership, adaptive leadership, and defined autonomy—and inductively, to identify any additional themes that emerged. Data were coded based on conceptual framework. Domain analysis (Glaser & Strauss, 1967; LeCompte, Preissle, & Tesch, 1993; LeCompte & Schensul, 1999); and more specifically, constant comparison analysis (Glaser & Strauss, 1967) were conducted (by hand) on the interview data to determine additional categories and explanations related to leadership and decision-making. Results from this analysis were used to construct measures focused on autonomy and defined autonomy within the final survey instrument. Insights from the interviews were also useful in interpreting the findings and some of these key themes are discussed in Chapter 5. A complete summary of the salient themes from the interviews is presented in the next section.

Summary of Key Informant Interview Responses

The seven interview respondents provided insights regarding the definition of school autonomy, school and district conditions for granting autonomy, specific aspects of school functioning and decision-making that warranted more autonomy than others, and the role of school autonomy in turning around low performing schools. Respondents from Denver Public Schools confirmed the district's reform context as described in Chapter Two—that DPS has actively worked to increase school autonomy in the areas of people, time, and money while restricting autonomy in the area of curriculum and instruction to only those schools that have consistently shown high performance. From these insights, a framework for thinking about school-district relations, with respect to autonomy was developed and a comprehensive set of survey items were developed to measure two different dimensions of school autonomy: perceived level of autonomy in a variety of functional areas and the district's approach to managing curriculum and instruction in schools.

Defining School Autonomy. Although they used slightly different language, respondents were relatively aligned in their definition of school autonomy. In general, all thought that school autonomy should be defined as the degree to which a school principal has the authority and flexibility to lead, make decisions and operate the school in ways that produce the outcomes for which they are held accountable. Coupling autonomy with accountability for outcomes was critical for most of the respondents. Although one respondent felt that school autonomy should be defined in more absolute terms as "having no constraints," most felt that establishing certain parameters or definitions around the kind and degree of autonomy granted to various principals, based on a variety of conditions present in each school, was important.

Clarifying what the specific conditions are that would lead to specific decisions pertaining to the level, scope, and degree of autonomy a particular school should receive seems to be thought of as a matter of judgment on the part of district leaders. Indeed, responses reflect that this is the subject of much debate within the field, and within the Denver Public Schools. While all respondents agreed that, in general, higher performing schools should receive a higher degree of autonomy over more things, there was less agreement on determining what level of autonomy low-performing schools should receive.

Most of the respondents acknowledged that this issue was unclear in the field, generally, and that it simply depended on a superintendent's judgment of a low-performing school's plans and the capacity of the school leader to do something better with any autonomy granted. The key is in clearly understanding the goals, or, what outcomes for which principals will be held accountable (e.g., increasing student achievement) and in also understanding the specific conditions that each school needs in order to reach these goals. This suggests that districts have a framework for a kind of "differentiated autonomy" for different schools rather than one-size fits all approach to school autonomy.

Another factor that should be considered, according to one respondent, is the degree of confidence, efficacy, and capacity a district has in its own systems, such as its own curriculum, instruction, and instructional support systems. As this respondent acknowledged, "there is a debate about whether autonomy should be a reward for performance—as in, you get more autonomy as you increase performance—or, as a precondition for performance. In a district that has a clear idea about what preferred instruction is, autonomy should be for high performance. Alternatively, in a district that is not confident that it has the right solution, and needs to figure that out, autonomy might be good for any school." This suggests that the quality of a district's centralized systems, in curriculum or other areas, matters.

When the focus was on Denver, specifically, some respondents felt that all schools should have a certain amount of autonomy, particularly around the use of people, time, and money. When it comes to curriculum and instruction, however, while all schools should strive to meet the same standards, autonomy should be differentiated, depending on each school's needs relative to its performance goals. In other words, "high performing schools should get a greater degree of flexibility on curriculum (e.g., textbooks, pedagogy, etc.). Lower performing schools should be more prescriptive on proven methods and curriculum materials, however, there still needs to be a decent degree of flexibility for principals to do what's best." Another respondent described it this way, "let's say there is a continuum of direct support, with less on one end, and more on the other. What does each school really need from the district and how do you differentiate autonomy along that rubric. Some group of schools will need more support and some will need less."

Several respondents cautioned against an overly formulaic view of school autonomy, wherein certain levels of autonomy are automatically granted to a school, based purely on its level of performance or some other single factor. As one respondent stated, "I am against a single-minded idea about autonomy."

Conditions for granting school autonomy. Most respondents agreed that autonomy is one tool, among many, that a district can use to support schools in their efforts to increase performance. There was also general agreement that while some level of autonomy and flexibility is important for all schools, not all schools should have the same level of autonomy. Among the DPS district leaders who were interviewed, there was general agreement that "all schools should start out having as much autonomy as possible, but then it becomes *differentiated* in different areas, depending on performance and leadership capacity. It should not be formulaic." Respondents discussed a variety of conditions that need to be considered when granting various aspects of autonomy to schools. These fell into two categories: school conditions and district conditions.

School conditions. School conditions that respondents felt needed to be taken into consideration included performance, leadership capacity, track record of implementing the curriculum, and school culture. The level of confidence in a principal's leadership is considered the most important factor in determining the degree of autonomy that should be granted to a school. As one respondent said, "It's not the right thing for all schools. As a district, we are accountable for outcomes. We have to have confidence with leaders to improve outcomes. There is a spectrum of leaders' abilities. Autonomy is offered to everyone, but not given to everyone. All should have the opportunity to say, "I want more," but then we say, "How will this improve the outcomes?" It has to be based on something and it has to be vetted. If they can't show how, then no."

Other factors that ought to be considered when granting autonomy include whether or not a school is "gathered around a single mission," whether it has community support, and whether they have big goals or are trying to just "tweak around the edges," whether they have a track record of implementing strong instructional practice, of managing their budget, etc. "They key is not necessarily performance, but it's more about their ability to take that freedom and do something with it."

District conditions. District-level conditions included its own confidence in the curriculum and "centralized," to the degree that there is one, instructional program, flexibility and operations of its budget and HR systems, efficacy, clarity (and ability to convey such clarity) around its role vis-à-vis its schools. One respondent felt that it was the explicit responsibility of a district to develop and deliver on coherent and consistent instruction, regarding this obligation akin to the work a "high-reliability organization," wherein the central systems ensure consistency and reduce the variance in results. By contrast, another respondent expressed a degree of skepticism about the realistic ability of any district to accomplish such coherence. According to this person, "I don't think any district can really have that. It can fool itself to different degrees." These divergent viewpoints may reflect two different theories of school reform that may need more clarification in the field, and certainly, within school districts attempting to operationalize efforts to increase or decrease school autonomy based on various factors.

In general, most agreed that districts, including DPS, need to spend more time clarifying these issues, that all schools, while they might have various degrees of autonomy, are also part of a system, and that this matters. According to one respondent, "there needs to be clarity [on the part of the district] about what we can manage at the system-level and at scale, and have indicators for that. Autonomy has to be coupled with explicit responsibilities and accountabilities. Here is what we define you have autonomy over. You have an opportunity to make decisions at your level that do not have to go beyond your level." Another respondent agreed, "Autonomy is not simply absolute authority. Principals need clarity about what they have the authority to do."

All agreed that creating conditions for schools to focus on the right things—that is, delivering on high quality instruction and student learning—was the most important goal for any district in determining the role of and conditions for granting autonomy. One respondent put it this way, school autonomy is "the ability of principals to lead and execute on responsibilities—to focus on things that matter—which is a robust set of practices that will improve student achievement." Another respondent agreed. "It's not just about autonomy. It's autonomy over the right things."

Key functions over which autonomy should be granted. Nearly all of the respondents felt it was important to allow schools to have a fair amount of autonomy over the uses of people, time, and money. On matters pertaining to curriculum and instruction, however, there was less agreement about the role of school autonomy, especially institutions where a school was underperforming.

Autonomy over people. There was a great deal of agreement around the importance of having principals be able to select their own staff within a school. Some felt that even though principals should be granted this authority, there was still an important role for districts to play during the initial steps of the hiring process. Namely, districts should develop quality human resource systems that help make hiring more efficient and timely and help pre-screen candidates to make sure that those being considered by the schools meet, at least, a minimum level of qualifications. Such supports on the part of a district can help schools to become more strategic and focused in their hiring decisions.

Allowing more flexibility for a school's ability to assign staff to specific roles within a school (i.e., staffing assignments) is also important. One respondent also felt that it was important to allow schools more flexibility to have more customized teacher evaluations, based on the specific goals of each school. At the time of the interviews, which was two-years before the district launched a new, district-wide teacher evaluation system, three schools within DPS were allowed to have more autonomy in teacher evaluation.

Autonomy over time. Respondents agreed that schools should have a fair amount of autonomy and flexibility around how time is used within the school. Although on some level, schools need to manage time within certain parameters, particularly when it comes to transportation schedules, having some level of flexibility was viewed as important. As one respondent stated, "schools should determine how time is spent based on basic covenants around what is expected."

Autonomy over money. Ensuring that principals can manage how resources are spent at the school was also viewed as an important aspect of school autonomy. Most respondents felt that the more budgetary flexibility that could be granted to schools, the better. Some cautioned, however, that many principals need guidance, training, and support in order to take full advantage of such flexibility.

Autonomy over curriculum and instruction. On the matter of curriculum and instruction, there seemed to be two different perspectives. Some felt strongly that the role of the district should be to ensure consistency and coherence in the implementation of curriculum and instructional practice. Others felt that there should be more flexibility for schools to develop their own approaches to curriculum and instruction. As one respondent explained, "To some extent, curriculum and how you implement curriculum. But, if the staff can't get good or feel good about the quality of the curriculum, then some flexibility might be needed." Another respondent felt that flexibility for curriculum and instruction should only be granted when "a school has demonstrated a track record of implementing strong instructional practice."

Striking the right balance on this matter was acknowledged to be tricky for districts. "It's a hard balance—managed instruction or having consistency in the curriculum and instruction versus having autonomy over curriculum." As described above, the distinction comes down to a judgment call based on district leaders' level of confidence in their own approach to curriculum and instruction, capacity to support it in a coherent way, and degree of confidence in each school's leadership.

The role of managed instruction. DPS, like many other urban districts, has attempted to implement an instructional reform strategy, sometimes referred to as "managed instruction." For purposes of this study, managed instruction refers to a district having a "common set of expectations for instructional practice." "One of the primary goals of a district," stated one respondent, "is to decrease the within-school variability in the quality of instruction. Managed instruction can help provide a consistent approach and a common language around pedagogy. It can make the practice public and build collective efficacy within schools. Districts should define autonomy around that. Districts should unburden schools so that they can be doing the consistent instruction, doing what they need to be doing."

District leaders acknowledged that DPS has struggled to implement this strategy well. While on the one hand, there is a common core curriculum and set of expectations focused on having a coherent instructional program and set of practices, the fidelity of implementation throughout DPS is mixed. According to one respondent, alignment to the district's preferred instructional approach seems to be higher in elementary schools, where teachers often look for more prescriptive instructional materials than it is in secondary schools. Another district leader acknowledged that "the central office is not very clear about what we expect and materials that we expect [teachers] to use around scope and sequence. At the same time, the [goal of] coherence in instruction has been translated by some, too rigidly." A third respondent who does not work for the district stated that "there is disagreement about managed instruction in the field, because people don't really know or understand what it is."

Autonomy over professional development. The respondents all felt that all schools should have the autonomy to set their own agenda for professional development. This view was true for any school, regardless of its degree of autonomy over curriculum and instruction. That said, one of the respondents who worked for the district also felt that in a managed instruction environment, the district has a responsibility to make sure that teachers have adequate professional development in the district's centralized curriculum and preferred instructional approaches.

Autonomy over other operational functions. Some of the respondents identified additional areas around which schools might, under certain circumstances, want to consider having more autonomy. In particular, one respondent felt that schools might want to have more control over resources and time spent dealing with a variety of district-provided services such as facility management, security, food services, and the like. This person felt strongly that if a principal found that their time spent on dealing with the district in these areas took too much time away from their ability to focus on instruction, then perhaps more flexibility and autonomy should be granted in these areas.

“Some things don’t have an impact on instruction,” stated the respondent, “but if some systems are so bad and takes away from a school’s time or ability to focus on instruction, then yes, autonomy should be given.”

The role of autonomy in turning around low performing schools. When asked what the role of autonomy was in turning around low-performing schools, most respondents agreed that it is one of several tools that could be used, depending on the conditions present in each individual school and district. One respondent, however, felt that “it’s everything,” and was key to enabling leaders to drive and produce the results for which they were being held accountable. In general, though, leadership capacity seemed to be the primary element that needs to be considered when using autonomy as a tool in turning around low-performing schools. “Leadership is key,” stated one respondent. “Think of a turnaround continuum. On one end, you have a school that just needs some improvement (and you would keep the same leader), or on the other end, there should be total change in the school. On the total change side, autonomy can mean, ‘here are the expectations and outcomes, and what we need to happen as a system.’ The leader can be creative and innovative to get there. We need more leaders who have the confidence to get there. But, if you know you don’t have that leader, you [districts] have to be equipped to provide other supports.”

Another respondent agreed. “In turnarounds, you want principals to have a lot of autonomy to make the changes necessary. But, unfortunately, not all principals have a plan. If the principal doesn’t have a good plan, then you should take away autonomy and say, ‘these are the things that we require for a turnaround situation.’ In general, the more autonomy, the better. But, you have to give autonomy to a principal who is a good one.”

Too-strict rules, whether coming from a district bureaucracy or a teacher union contract was another factor identified as key in using autonomy as a tool for turning around low-performing schools. According to one respondent, “All schools are better off without heavy protections and rules that limit flexibility around people, time, and money, and especially for a struggling culture around which you need to build more collaboration and trust. The strict rules of a contract or too-prescriptive district policy work against that.” In the area of curriculum and instruction, however, some respondents felt that “turnaround schools are better off following research-proven pedagogical methods than in trying to devise new ones.”

Leadership and autonomy in the Denver Public Schools. Additional questions focused exclusively on key aspects of leadership, autonomy, turnaround capacity, and the implications for leadership development were asked of the key informants who worked in the Denver Public Schools. The district leaders shared insights pertaining to the quality of school leadership within DPS, including its capacity for turnaround leadership, explicit steps the district had, at that time, taken to promote various aspects of school autonomy, and implications for future leadership development in the district. A summary of these findings is presented below.

Perceptions of school leadership quality in DPS. DPS district leader informants were asked to describe the extent to which DPS principals meet or exceed standards for high quality school leadership. There was general agreement that the level of principal quality in the district was mixed, with some demonstrating high quality and others low quality. A few of the respondents rated DPS’ principal quality as a “5” on a scale of 1-10. All respondents agreed that the quality of principal leadership needed to improve within the district. One respondent noted, though, that a strength of the district was the assurance that all principals, regardless of their leadership capacity, are focused on doing what is best for the students. “That is one thing that is truly consistent across the district,” this person exclaimed.

Turnaround capacity among Denver principals. When asked to describe the extent to which DPS principals possessed the capacity to turn around low performing schools, respondents agreed that when it comes to addressing this challenge, capacity is rather low within the district. While each respondent acknowledged that there was, in fact, some level of capacity, among some of the existing principals, they also offered sentiments like, “we have a long way to go here.” One respondent summed it up by saying that, “there are not enough who know how to pull a staff together or how to think differently about the school day and year. People stand back and wait. Not the right kind of training or principal for a turnaround effort.” Another respondent exclaimed, “We have mostly managers,” among the principal pool, who focus on compliance, known routines and practices, budget processes. They say, “Just tell me what to do and I’ll do it. They are waiting for direction.” By contrast, this person explained, “We need leaders who can inspire and know how to manage change. Change happens anyway. It’s how you manage it that matters.”

Suggestions for improving principal leadership development. Respondents shared their thoughts about ways in which the leadership development of school principals could be improved within DPS. All agreed that principal training needed to become more intentional and targeted toward producing more proactive leaders who have the ability to inspire and mobilize school staff and who can effectively manage a dramatic change process within schools. As one respondent put it, “All principals need substantial management skills, inspirational skills, customer relations, financial ability, etc., but turnaround principals need those to an extra degree. We need principals who are able to build a high performing culture in a school and know how to go from a low-performing to a high-performing one. This entails building the confidence of the people involved.”

Autonomy as a turnaround school strategy in DPS. District-based respondents outlined several steps that the district was taking to increase all schools’ autonomy. At that time, the district had deliberately worked to

- Push increasingly more parts of the budget out to schools through the student-based budgeting process (a form of weighted student funding) and carving out other aspects of the budget, such as the substitute teacher budgets, to the schools
- Give principals more authority to make budget decisions at the school-level
- Streamline and align the district’s human resource systems and procedures to improve the efficiency and effectiveness of the hiring process
- Give principals more authority to make hiring decisions at the school-level
- Provide incentives and support for schools to pursue “innovation school” status
- Gain greater flexibility in teachers’ use of time within the district’s collective bargaining agreement with the teacher’s union
- Push for a district culture that is output-focused rather than input-focused
- Increase incentives and rewards (compensation and other) for student growth
- Consider new oversight and supervision structures that support autonomous schools

- Consider innovations in curriculum and instruction developed or adopted by schools that have autonomy in this area.

Perceptions of principals' response to increased school autonomy in DPS. District-based respondents acknowledged that principals have noticed the changes in school autonomy that have been granted to them in recent years. There is a range of comfort with these changes, however, depending on the principal. While some principals are enthusiastic about the changes and ready to take advantage of the new autonomies, others are cautious about them. As one respondent shared, "Some do feel a little overwhelmed by it. Some are confused by it. They are more used to following orders. Some are threatened by the other side of that coin." Another stated, "Some just grab it and know what they want to do with it. They see a great opportunity here and they go after it. Others hide from it. They think it's another compliance issue and they fight it. It's important to get those people out of the system."

One respondent acknowledged that some principals and even instructional superintendents worry that increasing autonomy translates into putting too much responsibility on the schools and their principals. Although some principals resist having more autonomy, most of the principals seem to appreciate it. As one respondent put it, "Good leaders want the ability to make the right decisions for their schools and to have meaningful authority. If they don't think it is meaningful, they don't want it or need it." Many principals, one respondent believed, would say that the district still hasn't gone far enough in granting autonomy to schools, "because they are constantly dealing with the system." In these cases, entrepreneurial principals are constantly looking for more ways to improve their schools and sometimes find that the district gets in their way. "It's all a matter of how it's operationalized at the top level. There is an attempt to work it out on a case-by-case basis."

An example was shared about a high school, Manual High School, that wanted to operate on a different schedule, a trimester schedule, rather than a semester schedule. While, at first this was difficult to approve due to the many grading, common courses, and other systems that would not support having one school move in this direction, there was a concerted effort on the part of the district to work it out. "They sat down, worked it out, and now Manual has its own course catalogue." This reflects an intentionality to support strong teams of educational leaders to develop new ways of operating schools with the hope that it will improve results. The overall intent is for these kinds of innovations that occur in individual schools to trickle out to other schools, over time.

However individual principals feel about the increased autonomy, district leaders felt that principals were "getting better at managing this" and that the district was also getting better at clarifying what autonomy is, when it is important, developing principals' leadership for it, and "assessing their readiness" as individual schools become interested in "going further."

District role as facilitator or barrier to school autonomy. Respondents felt that principals of higher performing schools or those with strong, entrepreneurial leadership skills tend to find DPS to be more of a barrier to them having the kind of autonomy they would like. In the area of professional development, for example, these schools would like to have more autonomy to set their own agenda here. The district is working to establish mechanisms, such as within the Office of School Reform and Innovation, for these schools to work with this office to develop new strategies for oversight and management that help lead to greater school autonomy, where it is wanted or needed. Commenting on the resistance that might be present within the middle management of the district, one respondent explained, “At the highest levels, the district is supportive of this, but the people who actually have to do the work might not be.”

District leaders hope that a new culture of performance and responsibility will take hold across the district, establishing new norms “where principals perform, not just follow orders, where central office staff become innovative to put students first, and a culture where principals push back, telling us when the district is getting in the way by saying, ‘this practice is hurting kids.’”

District role as facilitator or barrier to school autonomy. Increasing school autonomy has significant implications for the kinds of skills and leadership needed from individual principals. One respondent admitted that doing so, “has increased the required skills for being a successful principal. It puts more on them and makes being a principal a really hard job.” The respondents all felt that it was both possible and important to help principals learn to use the autonomy they have. “Require and give chance, they will learn it,” said one respondent. “They will get focused on the right things when they see a quick link between actions and outcomes.” While the district has been focused on improving principals’ leadership skills, respondents admitted that more should be done in this area. There “needs to be more focus on team building and team management skills” and the kind of skills needed to turn around low performing schools.

DPS’ future plans for school leadership and autonomy. As they were asked what more they hoped to do related to advancing school autonomy, district leaders hoped to continue increasing principals’ authority and flexibility over staff hiring as well as various incentives that could be used to motivate staff in schools. Other elements they hoped to improve upon included leadership development, providing more support for principals, replicating and leveraging the examples of innovative schools, aligning with the school improvement plan so that there is better alignment of budget and resources, and improving the district's communications around this issue so that more people better understand the effort.

Informants identified a study of the district's efforts to expand autonomy, particularly around the new "innovation schools" that have been approved that was just beginning during the time of the interviews. Jointly sponsored by the state and local teachers unions (the Colorado Education Association and the Denver Classroom Teachers Association) together with the district (DPS) and a community organization that serves as a watchdog for education reform in Denver (A+ Denver), its purpose was to track progress, outcomes, challenges, and successes of the innovation school initiative over its first three years. Findings from this study are discussed in the Chapter 2 literature review.

Summary of key informants' recommendations for principal survey. All key informants were asked to share their suggestions on ways to ask principals their views about various aspects school autonomy within the survey to be constructed for this dissertation. Suggestions included:

- Rate principals on the degree to which they have the authority, capacity, and support to do what they need to do to raise achievement in their schools
- Ask principals what they need in terms of training and development and support for them to implement more autonomy

- Ask principals on a scale of 1 to 10, if 10 is do everything you could do without asking or having the freedom to decide for yourself and 0 is to be told what to do, what would you prefer for all of the different areas you have listed
- Ask principals what they want, why and why not
- Create 2 scales. Ask what their view is, what level of autonomy (be specific) and then ask how important that is to them, in terms of achieving their student learning goals.
- It might also be important to ask principals whether or not their reason for wanting more autonomy is due to the perception that the district is not doing its job (getting in the way) or because if the district is doing the right things
- Ask them, which one of these things is really important to do your job well. Is it about making the staff happy or is it about increasing achievement.
- Move them to rank how important the different things are. If you had to rank the importance, which would be the priority. Then ask why the ranking
- Ask principals how much oversight and support they need in order to use authority well.
- Definitely need to ask them why. Won't get anything substantive without asking principals why they need autonomy in certain areas.
- Ask them what kind of leadership skills they need to develop in order to do their job well.
- Ask principals to rate what they would do for themselves and then also ask them what they would think about other principals doing it (i.e., what is right for most principals).

Constructing Measures for Autonomy and Defined Autonomy

Based on the interviews and additional research conducted, it was clear that my survey needed to include a way to measure both the level of autonomy principals had (or perceived that they had) across different school functions and the degree to which having autonomy in this area is considered important to them. This would enable me to understand whether or not principals had autonomy in the areas where they need it the most. It also seemed important to assess some level of information about the context for that autonomy, including knowledge about both the school and district conditions, particularly with respect to the area of curriculum and instruction. Understanding what, if anything, might stand in the way of a principal having more autonomy if they could (or wanted to) also seemed like it might contribute to an understanding of the context within which a principal lead her/his school as well as perhaps her/his own motivation to either actively work to remove those barriers or to accept them.

The next section discusses the specific sources for survey items that followed the two key autonomy themes examined in this study. The first section discusses the development of the items focused on measuring the amount and type of autonomy each principal has as well as the degree of importance placed on each area of autonomy. The second section discusses the development of survey items focused on the district context with respect to curriculum and instruction along with other possible constraints to having more autonomy.

Measuring the amount and type of autonomy. In a 2007 study of 30 urban school principals from across the country, Adamowski, Therriault, and Cavanna (2007) sought to identify what, if any, autonomy gap principals had over the amount and types of autonomy they wish they had versus the amount and types of autonomy they actually had within their respective district, union, and other contexts. The study involved in-depth interviews with each of the principal participants and included having principals complete a two-part questionnaire asking them the level of autonomy they had in specific areas and in addition, asking them to rate the importance of this specific area of potential autonomy. A review of this questionnaire revealed that it sought to measure many of the same elements that I hoped to examine in my dissertation research, especially in terms of identification of the specific functions within autonomy over people, time, money, and other possible school functions.

After reviewing its contents with my dissertation advisor, I decided to use it as a foundation for the autonomy questions within my principal survey, and supplement it with additional questions that were relevant to the Denver principals, based on the interview responses and relevant to my research questions. Other research on school autonomy was reviewed and together with the results from the interviews informed the construction of the staffing autonomy items, (Maslowski, Sheerens, & Luyten, 2007; Coalition of Essential Schools, 2005; Connelly, 2009), schedule autonomy items (CES, 2005), budget autonomy items (Connelly, 2009; Roza, David & Guin, 2007), curricular autonomy items (CES, 2005; Connelly, 2009); and school improvement autonomy items (Wohlstetter, Datnow, & Park, 2008). Table 3.11 lists the items used to measure principals' perceptions of the level of autonomy they have over each school function.

Table 3.11 Autonomy Functions and Concepts Measured in the "Level of" Autonomy Scale in the Denver Principal Survey

School Function	*Autonomy Factor in Adamowski et al. (2007) Questionnaire*	*Autonomy Factor added Based on Interviews and Other Research*
Staffing (i.e., People).	Assign/reassign staff	Determine pay and/or bonuses
	Transfer staff	Determine teacher load
	Discharge staff	Evaluate teachers and other staff
	Assign non-instructional duties	
	Hire staff	
Schedule (i.e., Time)	Determine teacher and student schedules	Determine amount of common planning time
	Control school calendar	Determine length of school day
	Allocate time for instruction	Determine length of school year
	Determine how much time spent on instructional v. operational issues	
Budget (i.e., Money)	Determine number and type of faculty and staff positions within budget	Allocate additional resources that have traditionally been controlled by the district
	Allocate resources (e.g., materials, textbooks, maintenance, equipment, etc.)	Choose whether or not to purchase district or charter management organization services
	Engage in private fund-raising for your school	
Curriculum	Have control over curriculum pacing and sequencing decisions	Establish school-based assessment practices
	Have some control over methods and materials	
Professional Development		Allocate time for professional development
		Determine content of professional development
		Determine delivery method for professional development
		Determine instructional support for teachers
School Improvement	Determine which extra-curricular activities your school offers	Determine strategy for school improvement
	Make program adoption decisions	Make school improvement decisions on the basis of school's data
	Set parental involvement requirements for school	
Enrollment		Market your school to families and students
Discipline	Determine student discipline policies and procedures	
	Control student dress choices	
Operations	Oversee the school facility	Control more of the operations (e.g., food services, etc.)
District and Policy Relations		Influence district policymaking
		Influence district curriculum and instructional practices and decisions

For each item in the survey, principals were asked to identify both (a) their current level of autonomy in the stated function and (b) how important they think it is to have autonomy each area to successfully lead their school. Principals were asked to respond using a four point Likert scale in both cases with 1 indicating that the principal has no autonomy in the area, 2 indicating that they have some autonomy in the area, 3 indicating that they have autonomy in the area, and 4 indicating that they have a lot of autonomy in the area. On the questions pertaining to the importance of autonomy in each area a 1 indicated that it was not important to have autonomy in that area, a 2 indicated that it was somewhat important, a 3 indicated that it was important, and a 4 indicated that it was very important to have autonomy in that particular area.

Measuring the district context for school autonomy. In addition to asking questions similar to the above described focused on level and importance, the Adamowski et al. (2007) questionnaire also included a set of questions asking respondents to identify the degree to which certain factors were considered constraints to their autonomy. This set of questions was also included as another way to identify differentiating factors affecting or limiting school autonomy among the respondents. This question asked principals to identify the degree to which the following factors currently constrain their ability to have the level of autonomy they would like to have as a school leader: (a) the district or charter management organization’s policies or rules, (b) district culture, norms, or operational traditions, (c) school board, (d) state laws or regulations, (e) federal laws or regulations, (f) union contracts and the collective bargaining process, (g) parental pressure, (h) teacher or staff pressure, (i) alumni, (j) school traditions, (k) college expectations, (l) charter authorizers, (m) market competition, and (n) lack of raining or knowledge. Again, a four-point Likert scale was used with a 1 indicating that the item was not a constraint on their autonomy, a 2 indicating that it was somewhat of a constraint, a 3 indicating that it was a constraint, and a 4 indicating that the item was very much a constraint. This question set was used in the exact same manner that it had been in the Adamowski et al. (2007) study. Table 3.12 summarizes the items used to measure various constraints on principals' autonomy.

Table 3.12 Items to Measure what Principals' Constraints on their Autonomy

Concept measured	*Survey Item*	*Type of Response Sought*
District or CMO constraints	The district or CMO's policies or rules	Rating on a scale of 1-4 1= Not a constraint 2 = Somewhat of a constraint 3 = Is a constraint 4 = Is very much a constraint
	District culture, norms, or operational traditions	
	School Board	
	Charter authorizers	
Union constraints	Union contracts and the collective bargaining process	
State or federal constraints	State laws or regulations	
	Federal laws or regulations	
School-based constraints	Parental pressure	
	Teacher or staff pressure	
	Alumni	
	School traditions	
Other constraints	Market competition	
	College expectations	
	Lack of training or knowledge	

The key informant interviews confirmed the notion that in Denver, more restrictions were placed, particularly for lower performing schools, on the granting of autonomy in the area of curriculum and instruction while concerted efforts were made to promote autonomy in other operational areas. Indeed, key informant interviews affirmed the notion that Denver Public Schools had implemented a form of managed instruction whereby the district attempted to manage, more centrally, decisions, including the selection, scope and sequence, and overall approach to curriculum. The intention behind this was to achieve a greater level of instructional coherence across the district, within schools, and ultimately, for students. At the same time, the district had actively sought to increase opportunities for principals to have more autonomy in other areas. Questions discussed in the previous section were designed to identify those areas, but in order to adequately measure they kind of defined autonomy in operation in Denver, an additional measure for managed instruction was needed. Thus, using the descriptions of managed instruction offered by the informants, I constructed a set of statements describing the key components of manage instruction and asked the principals to rate their level of agreement as to whether or not each component was present in DPS. Since the interviews also revealed that district leaders acknowledged that there were questions as to the quality of implementing managed instruction, I also decided to include a set of questions asking principals to rate the quality of each managed instruction component in Denver.

A set of seven items was developed using aspects of the definition of managed instruction found in the research (Adamowski, 2007) combined with descriptions of the approach from the interviews. These items included (a) the district (or charter management organization (CMO)) has established a common core curriculum, (b) the district (or CMO) has established pacing guides, (c) the district (or CMO) expects consistent/coherent implementation of the common core curriculum across schools, (d) the system-wide curriculum and assessment system facilitates data-driven decision making, (e) the system-wide curriculum and assessment system helps teachers to be “on the same page” in their discussions regarding data about student learning, (f) part of my role as principal is to ensure fidelity of implementation on the part of teachers in my building, and (g) the district (or CMO)’s philosophy relies on a “managed instruction” approach in order to ensure consistent, coherent instruction for all students.

At the beginning of this section of the survey, principals were given an introductory summary that described the concept of managed instruction. The summary read, “This section asks you questions pertaining to the concept of “Managed Instruction.” Managed Instruction refers to “centralized decision making with the expectation that principals will ensure their teachers’ fidelity to the district wide curriculum.” Another way of understanding Managed Instruction is that, when well implemented, it aims to “decrease the within-school variability in the quality of instruction and provide a common language around pedagogy, making the practice public and building collective efficacy within schools.” Managed instruction aims to promote consistency and coherence with respect to the teaching and learning practices used to implement an established curriculum.” After this introduction instructions were given on how to respond to the final seven items in the scale. Table 3.13 provides a summary of the items used within the managed instruction scale and the three types of responses requested.

Table 3.13 Items to Measure Presence of Managed Instruction

Type of response requested	*Final list of items used to measure managed instruction*
Rate agreement on a scale of 1 through 4 on: a) Presence of b) Quality of c) Value of	The district or CMO has established pacing guides. The district or CMO expects consistent and coherent implementation of the common core curriculum across schools. The system-wide curriculum and assessment system facilitates data-driven decision-making. The system-wide curriculum and assessment system helps teachers to be "on the same page" in their discussions regarding data about student learning. Part of my role as principal is to ensure fidelity of implementation on the part of teachers in my building. The district's or CMO's philosophy relies on a "managed instruction" approach in order to ensure consistent, coherent instruction for all students.

Principals were asked to respond to three questions for each of these seven statements. First, they were asked to indicate their agreement regarding the presence of each element within their district or charter management organization using a four-point Likert scale where a 1 indicated that they strongly disagree, a 2 indicated that they disagree, a 3 indicated that they agree, and a 4 indicated that they strongly agree. The second dimension asked principals to rate the extent to which they felt that the district or CMO's efforts to implement a managed instruction approach were of high quality. In this set of questions a 1 indicated that they felt the element was of poor quality, a 2 indicated that the element was of fair quality, a 3 was good quality, and a 4 meant great quality. Finally, principals were also asked to identify the degree to which they valued each element of the managed instruction approach. A response of 1 indicated that the principal did not value the element, a 2 indicated that they somewhat value the element, a 3 indicated that they do value the element, and a 4 indicated that they highly value the managed instruction element. The scale used in the below analyses only includes responses for the first part of this set of questions (part a) which measures the presence of managed instruction.

Measuring the principal's motivation to seek autonomy. One of the conclusions in the Adamowski et al. (2007) autonomy gap study was that many principals had come to accept many of the standard "system" or other constraints on their autonomy as a regular part of the job of being a school leader. Indeed, the authors concluded that "Despite having their hands tied over critical decisions, most district principals interviewed for this study appear content with the meager authority they possess. They don't aspire to be chief executives of their schools; rather they seem to accept their roles as middle managers" (p. 9). A similar concern was also indicated in the key informant interviews when one respondent noted that not all principals knew what to do or knew how to make the most of the autonomy they were granted. Indeed, interviewees commented that some principals did not value or even wished that they did not have some of the autonomies they had been given while others could not get enough. Based on this, I wanted to include a set of questions that would attempt to measure the level of motivation each principal had to seek autonomy (or additional autonomies if they already have some). In addition, I wanted to measure the degree to which each principal either actively sought to reduce constraints placed on them or accepted the constraints as a normal part of their job (as Adamowski et al. 2007 concluded). Finally, I was interested in learning the degree to which each principal felt they had the right amount of autonomy, whatever that might be, for their particular school. While these additional questions were not central to my research hypothesis, they seemed like they might add some additional information that would help gain understanding not only of the differentiated nature of how school autonomy is operationalized school-by-school, but the differentiated nature of each school leader's motivation to both seek and make the most of the autonomies that are available to them.

Two questions were included in the survey to try to measure the degree of motivation each principal has for seeking autonomy or additional autonomies. The first question asked, "Have you ever applied to receive additional school autonomy as the leader of your current school (e.g., through the innovation schools process)?" The question was worded in this way because there were some schools that had applied for innovation status (a formal process for seeking autonomy) but either had been denied or a final decision had not yet been made regarding this application. The second question asked, "Have you ever considered or would you consider applying for additional school autonomy at your current school?" In both cases, respondents were asked to answer with a simple yes or no.

In an attempt to measure the degree to which each principal actively takes steps to reduce constraints, the following question was posed to principals, "Generally speaking, in your role as a principal at your current school, when you encounter constraints on your autonomy, to what degree do you accept them as a normal part of education and to what degree do you tend to take steps to work around them?" They were asked to respond using a Likert scale of 1 through 5 where a 1 indicated that they do everything that they can to work around most constraints and a 5 indicated that they accept most constraints as a normal part of public education.

The survey also sought to measure whether principals felt that they had the right amount of autonomy, over the right things, in order to be effective in their job, regardless of the actual amount they had been granted. Principals were asked the following question and prompted to respond with a yes or no answer: "In your opinion, do you feel that you, as the principal of your current school, have the right amount of autonomy over the right things in order to effectively lead and raise student achievement?" Table 3.14 provides a summary of these additional autonomy-related questions that were asked in the survey

Table 3.14 Questions about Principals' Motivation to Seek Autonomy

Concept measured	*Survey Item*	*Type of Response Sought*
Interest in or motivation to seek additional autonomy	Have you ever applied to receive additional autonomy as the leader of your current school (e.g., through the innovation schools process)?	Yes or No
	Have you ever considered or would you consider applying for additional school autonomy at your current school?	Yes or No
Satisfaction with current level of autonomy	In your opinion, do you feel that you, as the principal of your current school, have the right amount of autonomy over the right things in order to effectively lead and raise student achievement?	Yes or No
Degree of motivation to proactively work to reduce constraints	Generally speaking, in your role as principal at your current school, when you encounter constraints on your autonomy, to what degree do you accept them as a normal part of education and to what degree do you tend to take steps to work around them?	Rating on a scale of 1-5, 5 = I do everything I can to work around most constraints and 1 = I accept most constraints as a normal part of public education

Measuring autonomy by school type and phase. The survey was intended to be given to school leaders of all types in Denver Public Schools. That includes leaders of traditional schools, innovation schools, and charter schools. Since each type of school is associated with a certain degree of autonomy, with charter schools having the most autonomy and traditional schools having the least, a question asking school leaders to identify their school type was included in the survey. Due to missing data, however, and confusing wording of this question, the question was ultimately discarded. Data for school type were retrieved, however, from district documents to ensure that the information was both up-to-date with respect to those schools that had indeed applied or become innovation schools during the time of the study as well as those that were charters and traditional schools. Additional data were obtained from the district identifying those schools that had an additional designation, including those that were alternative high schools (now referred to as Intensive Pathways in DPS) and magnet programs.

Several schools in DPS were also undergoing other kinds of transformations during the time of the study. One such transformation was the inception of "turnaround schools" as an approach to reform. DPS had initiated a form of turnaround reform prior to the release of federal funding (and concomitant rules and regulations) to support and govern turnaround school processes. In some of these cases, the district had proactively made decisions to either close or phase out certain persistently low performing schools while phasing in new schools, often one grade at a time. Thus, in addition to having schools of various types with respect to the way in which the school is governed and the degree of autonomy it has, DPS also had schools operating at various developmental phases with some in a start-up mode, some in a conversion or turnaround mode, some in a stabilizing mode, and others in a sustaining mode. In an attempt to capture which developmental stage each school was in, the survey included an item asking respondents to characterize the phase of development that their school was currently in. Table 3.15 summarizes the variables for types of schools as well as the response choices for the question focused on each school's developmental phase.

Table 3.15 Measures for School Type, School Program Designation, and School Developmental Phase

Category	*Type of Information Asked*	*Response Options*
School Type	Traditional school Innovation school Charter school	Scale: 1 = Traditional school, 2 = innovation school, 3 = charter school
Programmatic Designation	Alternative school Magnet School	Categorical: 1 = Alternative school, 2 = Magnet school
Developmental Phase	Start-up Conversion/Turnaround Stabilizing Sustaining	Scale: 1 = Start-up, 2 = Conversion/ Turnaround, 3 = Stabilizing, 4 = Sustaining

Additional variables measured in the survey. The scales and items described above represent the primary variables involved in the study and those most relevant to the theoretical framework and research hypothesis. Additional survey items were included, however, in an attempt to capture a variety of background and contextual information that would improve understanding of the eventual findings as well as any variations in responses that might be based on such factors as principal demographics, years of experience, preparation program attended, degree of participation in professional development, and the role of various forms of recognition and/or rewards, including the district's relatively new emphasis on incentive pay for school leaders. Table 3.16 synthesizes the additional variables that were included in the survey.

Table 3.16 Synthesis of Additional Items Included in the Survey

Category	*Type of Information Asked*	*Response Options*
Principal Preparation Program	Type of preparation program attended	Traditional (university-based), DU Ritchie Program, National Leadership Program, Alternative Licensure Program, On-the job experience, Other
	Quality of preparation program	Scale: 1 (Poor) through 4 (Great)
Experience	Experience as a principal	Yes/No, current school, current district
	Experience as an Asst Principal	Yes/No, current school, current district
	Experience as a Teacher	Yes/No, current school, current district
Professional Development	Participation in DPS professional development	Level of participation, quality rating
	Participation in other professional development	Level of participation, quality rating
Performance Evaluation	Evaluated within the last two years	Yes/No
	Degree to which DPS standards met	Scale: 1 (none) through 5 (exceeded)
Recognitions and Rewards	History of recognition or receiving an award for school leadership	Yes/No
	History of receiving incentive pay through DPS	Yes/No
	Type of incentive pay received	Hard-to-staff school, meeting student performance expectations, implementing school improvement plan, other
Demographic Information	Age	Ranges, 20-29, 30-39, etc.
	Gender	Male, Female
	Race/Ethnicity	White/Caucasian, Latino/Hispanic, Black/African American, Native American, Pacific Islander
Additional comments	Open	Open response

Reliability and Validity

This section discusses the steps that were taken to ensure that the survey items and what they aimed to measure were valid and reliable. Validity refers to the extent to which an instrument measures what it is intended to measure (Hopkins, Stanley, &

Hopkins, 1990). As described above, some of the scales used within the Denver Principal survey were taken from surveys or questionnaires used in previous research. As such, these parts of the survey had previously undergone a validation process.

First, the survey included a set of questions used to measure the level of autonomy that principals have that was previously used in the Autonomy Gap study by Adamowski et al. (2007). According to their final report, these questionnaire items were validated through a peer review process. Specifically, the interview protocol used, including the questionnaire was reviewed and approved by the American Institute for Research (AIR) Institutional Research Review Board. In addition, according to the report, "the interview protocol was field tested with five principals in a New Jersey school district. Information gathered during the field test was used to refine the protocol" (Adamowski et al., 2007, p. 13).

Second, the Adaptive Leadership Profile (ALP) used with the permission of Cambridge Leadership Associates was developed by "leadership experts and groups of statisticians," according to their website. An inquiry was sent to the Cambridge Leadership representative with whom I had been corresponding on the ALP seeking a more detailed description of any steps that were taken to validate the instrument. Unfortunately, to date, I have received no response.

Additional steps were taken to validate the instrument once a full draft of the survey had been developed and reviewed by myself and members of my dissertation committee. The next section describes what was done to engage a group of content experts in a pilot and review process for the survey.

Validating the Survey through a Pilot Test and Reviewer Feedback

As mentioned above, once the first draft of the survey was finalized in consultation with my dissertation advisor, it was distributed to a selected group of school and other education leaders who were willing to pilot and review the survey. These key informants provided feedback that helped to validate the survey items.

A total of 25 participants who are content experts in the two primary elements of the study, school leadership and school autonomy, were invited to pilot the survey and provide feedback. Of these, 10 provided responses. Most of the participants had a background in school leadership, either as a current or former principal, or someone who has worked with school principals on aspects of school leadership as well as in a professional role that deals with aspects of school autonomy.

Each pilot participant was contacted by email and provided with a link to the survey, which was constructed online, using an online survey tool called Survey Monkey. A copy of the email and information provided to the pilot participants can be found in Appendix C. In addition to completing the survey, each pilot participant was asked to provide a summary of their feedback and any suggested revisions via email. Their responses to the actual survey were collected, but not analyzed. I was more interested in their feedback on the effectiveness of the survey items in measuring the key concepts of the study themselves.

Their feedback provided helpful information identifying areas of redundancy within the survey and suggestions for reducing the number of items, clarifications in the wording of some items, typographical errors, and other suggestions for ways to improve the survey such as asking principals to rate themselves based on how their staff would in terms of principal effectiveness. The survey was revised based on their feedback and finalized in consultation with Dr. Rodney Muth, my then dissertation advisor. A copy of the final survey used is provided in Appendix D.

While it is not possible to claim that a full level of construct validity was achieved through this process, I do feel that the survey development process based on established literature along with previously used instruments, where available, together with the pilot test and review process establishes that the final survey meets standards for face and content validity (Nunnally, 1967). The survey meets face validity in that the language used was clear, well organized, and feedback obtained confirmed that the items appeared to measure what they are intended to measure. The steps taken also support the content validity of the survey. The reviewers, each of whom had content expertise in the areas of school leadership and/or school autonomy, offered support for the notion that the questions asked in the survey aligned to the key variables I was seeking to study and where necessary, offered feedback to make adjustments to that effect.

Reliability

Reliability refers to the consistency with which a survey instrument measures the same constructs and would yield the same results if the instrument were administered in different situations with different populations. In short, reliability is an estimate of the extent to which a measure is free from measurement and measures of the internal consistency of a scale error (Cronbach, 1951; Nunnally, 1967; Ritter, 2010; Thompson, 2003). The more internally consistent a measure, the more useful and generalizable it is to other populations. The less consistent, the less useful it is (Ritter, 2010). To affirm the reliability of the primary scales used within my survey, tests of the inter-item consistency were run using Cronbach's coefficient alpha method (Cronbach, 1951) in SPSS. I selected the option for "alpha if item deleted" to identify any individual items that might detract from the reliability of the overall scale. Any item with a correlation below r = .20 was deleted from the scale.

A reliability test was completed on all of the items aimed to measure the concepts of technical leadership, adaptive leadership, level of autonomy scale, and the scale used to measure managed instruction. All scales had acceptably high reliability coefficients ranging from *r* = .760 for managed instruction to *r* = .960 for the autonomy scale using the Cronbach alpha method. Table 3.17 presents a summary of the reliability tests for each of the primary scales used in the analysis.

Table 3.17 Summary of Reliability Coefficients for Each of the Primary Scales

Scale	*Cronbach's alpha*
Technical leadership (TL)	.950
Adaptive leadership (AL)	.928
All autonomies	.960
Curricular autonomy	.838
Operational autonomy	.939
People, Time, and Money autonomy (PTM autonomy)	.938
Staffing (people) autonomy (autonomy over people)	.878
Time autonomy (autonomy over time)	.859
Resource autonomy (autonomy over money)	.803
Managed instruction (MI)	.760

Since this was a newly created measure, and since the reliability was lower than the other scales, an exploratory factor analysis was completed on the managed instruction scale to further examine its internal reliability and factor structure. A principal component analysis (PCA) was run in SPSS. The results confirmed that each of the six factors in the managed instruction scale loaded together on a single principal component.

Unfortunately, there were not enough participants in the study to effectively conduct factor analyses on the additional scales (too many items and not enough participants).

The Dependent Variable: School Growth Gains

The dependent variable in the study is the degree to which a school's growth score increased (or decreased), over time. Referred to in this study as school growth gains, this score was based on the index of growth measures within Denver's School Performance Framework (SPF). While the SPF also includes an index for student achievement (status) and mother measures including indices for post-secondary readiness (growth and status), student engagement and satisfaction, enrollment, and parent satisfaction, I was most interested in growth for this study. My rationale for this exclusive focus on the growth index was fourfold: (a) it calculates the degree to which the students within schools are making progress and growing academically, over time, regardless of their overall achievement level (b) it provides a way of understanding whether or not that progress or rate of growth is adequate to enable students who are far behind to catch up to proficiency levels in time to graduate, (c) SPF growth data is available for DPS schools from 2006 to the present day, enabling longitudinal analyses to be conducted, and (d) nearly all of DPS' reforms pertaining to the aligned incentives and accountability expectations at the time were geared to stimulate higher rates of growth within schools. These last two factors are also the reasons why I chose to use the SPF rather than the Colorado Growth Model, which offers a similar measure of school growth.

The SPF growth indicator includes a combination of ten individual measures: (a) a school's median growth percentile, (b) a school's median growth percentile when compared to similar schools, (c) catch up growth, (d) keep up growth, (e) growth for continuously enrolled students (elementary and middle schools only), (f) growth on the Colorado Alternative Assessment, (g) sub-group growth, (h) subgroup growth comparison, (i) students with disabilities growth comparison, and (j) growth on the Colorado English Language Assessment (CELA) (Denver Public Schools, 2012a, 2012b). Schools are given points based on their results for each measure and the points are combined to obtain a total score for SPF Growth.

In this study, the variable for school growth gains reflects the difference between a school's average SPF growth score over a two- or three-year span of time aligned with the study timeframe and each principal's tenure and SPF growth score for that school in its baseline year. In most cases (and all cases with three years worth of growth scores in the calculation), the baseline year was the year before the three-year timespan aligned with the principal's tenure. In the cases with only two years worth of available growth data, the baseline year was the first year the data were available.

The majority of principals (40 of the 48) in the study had school growth gains calculated over three years with 30 of them calculated from 2010 to 2012. In these cases the school growth gain score reflected the difference between the average SPF growth score over the three years (2010, 2011, and 2012) and the 2009 SPF growth score. Ten of the school growth gains were calculated based on growth scores from 2009 to 2011, which aligned more directly to those principals' tenure. In these cases the school growth gain score reflected the difference between the average SPF growth score from 2009, 2010, and 2011 and the 2008 baseline SPF growth score. There were eight instances in which a principal who had responded to the survey had just begun their tenure during the 2009-10 school year, which was the same year that the survey was administered (in spring 2010) and therefore, their tenure only aligned with two years during which growth scores were available. In these cases the school growth gain score was calculated as the difference between the average growth score over the two years (2011 and 2012) and the 2010 baseline SPF growth score.

Of the 48 schools in the sample, 22 made growth gains over the course of three years and 24 had declines in their growth score. Two schools saw no change in their growth over the three-year time period. The gains made in school growth across the three-year span of time ranged from a gain of 59 points to a decline of 33 points. The average gain in school growth over three years was 3.17 points. A full listing of each school's school growth gains as well as the relevant timespans and baseline SPF growth and status scores (which were used as a control variable in the foregoing analyses) can be found in Appendix F. Here, the names of each school and principal have been removed to ensure that their confidentiality remains protected.

Human Subject Research Committee

The proposed protocol for this dissertation research was submitted to the University of Colorado at Denver Human Subject Research Committee (HSRC) on November 16, 2009. A similar research proposal, following the district's proposal requirements was also submitted to the Denver Public Schools Office of Research and Assessment on November 18, 2009. The timing of these submissions for approval was significant in that I purposely waited until my four-year term as an elected, At-Large member of the Denver Public Schools Board of Education was completed before beginning the research for this dissertation so as to avoid any overt conflicts of interest or potential influence on Denver principals that my role as a school board member might have. After various questions and clarifications were made with both entities, the research proposal was approved. It was approved by DPS on December 15, 2009 and by the HSRC on December 21, 2009. Since then, continuing reviews have been submitted and approved, annually, with the most recent approval granted on December 13, 2012.

Exploration of Methods to Impute Missing Data

While I am grateful for any school leader who took the time to complete any part of the survey, it is disappointing that so many participants dropped out before all of the questions and key scales needed for the analyses were completed. In retrospect, I realize that the length and complexity of the survey questions themselves may have contributed to this situation and I would remedy that with a much shorter, simpler, and more concise survey format in the future. Nonetheless, for the purposes of this study, it was clear that I would be left with a rather small number of participants (n = 30) which would have a significant impact on the statistical power of the analyses.

In an effort to mitigate the resulting loss of statistical power, the option of using one of the more modern multiple imputation methods was explored. I spent two to three weeks learning about the various approaches to multiple imputation (Graham, 2009; J. Hill, 2011; Jesse, 2013) and, in collaboration with my dissertation advisor, Alan Davis, attempted to run up to 15 imputations through SPSS and then to subsequently use the resulting data for the analyses. In the end, however, this approached proved to be more complex than necessary, due to the limitations of the multiple imputation approach available in SPSS and it did not appear to yield a more robust result, so it was ultimately abandoned. As a result, the foregoing analyses were all run using only the data that were collected for each of the scales, with sample sizes ranging from n = 30 to n = 48, depending on the scale involved. The method for dealing with missing data was listwise comparison.

Analysis

Answering the primary research questions required the use of a combination of analytical methods. First, qualitative methods were used to analyze the data collected through the key informant interviews. The data were reviewed deductively based on the research theory and inductively for key themes that emerged and used both for purposes of designing components of the principal survey and to better understand the district and general school reform context for school leadership and different kinds of autonomy (Bernard, 1995; Geertz, 1973; Glaser & Strauss, 1967; LeCompte et al., 1993; LeCompte & Schensul, 1999; Saldaña, 2009). This process is described in greater detail above.

Second, quantitative methods were used to generate descriptive analyses, including frequencies, distributions, range, means, and standard deviations of key variables aligned to the key themes and variables in the study. This information helped to provide a sense of context for the sample of school leaders and helped to identify a few additional variables that made a difference in the final analysis. In addition, Pearson product moment correlations were run to determine the relationships between each of the key scales and variables in the study. This information helped to identify any potential concerns for multicollinearity and served as a basis for selecting three control variables.

As mentioned above, the hierarchical regressions were each conducted in a series with the same variables entered in Blocks 1 and 2 (after determining the effects that these variables had on their own) as the foundation for each series. The purpose of this approach was to enable comparisons of different possible scenarios for defining autonomy using different combinations of scales and other variables in the study. Summaries of each of the individual analyses and series' were compared and presented highlighting the effects of each scenario for defined autonomy as well as the effect for the overall regression model that included all variables in the hierarchy.

Finally, Analysis of Covariance (ANCOVA) was used to conduct a direct test of the research hypothesis. In a similar fashion to the approach taken with the hierarchical regressions, a series of ANCOVAs were conducted following different scenarios for defining autonomy. The purpose of this approach was to determine what, if any, difference a specific approach to defining autonomy made in terms of a school's growth gains.

CHAPTER IV

DESCRIPTION OF FINDINGS

Introduction

This chapter presents the results of analyses used to address each of the research questions. First, a discussion of Denver principals' levels of the two types of leadership (technical and adaptive) as well as their perceptions of the types of school autonomy they have is presented. Second, a review of the relationships found between each of the variables and with school growth gains is shared. Third, a series of hierarchical multiple regression was used to determine the degree to which the independent variables—technical leadership, adaptive leadership, and defined autonomy—entered in sequential order, predict school growth gains (the dependent variable). The regressions were conducted in a series using five different approaches to measuring the concept of defined autonomy so that results could be compared across these definitions for autonomy. Finally, analysis of covariance (ANCOVA) tests were also conducted in a series to test the research hypothesis.

Levels of Leadership and Autonomy among Denver Principals

This section describes the overall levels of technical leadership, adaptive leadership, autonomy, and defined autonomy reported by Denver principals. Descriptive statistics in SPSS were used to calculate results for each of the primary scales of concern in this study.

School Leaders' Levels of Technical Leadership

This section describes school leaders' responses to the technical leadership scale. Although the technical leadership scale includes several sub-scales on which the levels of leadership among principals could be identified, for purposes of this study, the only levels reported are those on the whole scale in its entirety. To measure the overall level of technical leadership among principals, an average score across all of the technical leadership items was calculated. This determined the number and percentage of principals who, on average, reported themselves to be either needing considerable development, needing some development, competent, effective, or very effective in technical leadership. All of the principals who responded to the survey reported themselves to be, on average, either competent, effective, or very effective. Specifically, the vast majority (64.5% of the principals) rated themselves, on average, as effective and 24.4% of the principals rated themselves as very effective. The remaining principals, 11.1% of them rated themselves, on average, as competent for technical leadership. While lower ratings were scored for individual items or scales, no principals rated themselves, on average, as needing development or needing considerable development in technical leadership as a whole.

School Leaders' Levels of Adaptive Leadership

Similar ratings and lack of differentiation were found for the levels of adaptive leadership. As described above, the scores for individual items and scales within adaptive leadership were not calculated in this study. The focus instead is on the overall average rating for adaptive leadership as a whole scale. In this case, the majority (55.6%) said that, on average, they usually employ adaptive leadership behaviors and 36.1% of principals said that they almost always employ adaptive leadership behaviors, which was the highest rating in the scale. Another 8.3% of principals reported employing adaptive leadership behaviors often. No principals had an average score that fell below “often,” which was a 4 on the 7-point scale.

School Leaders’ Levels of Autonomy and Defined Autonomy

This section describes school leaders’ responses to the various autonomy scales in the survey. Here, the average levels of autonomy are reported for each of the autonomy subscales used in the analysis, including the managed instruction scale.

Results for the Primary Autonomy Scales

Based on the survey results, it appears that Denver principals have at least some amount of autonomy in most of the areas measured. Very few areas were found in which some principals indicated that they had no autonomy at all. Curricular autonomy was the area in which the most principals did not have any autonomy, but even that represented very few (only 6.1% of the respondents). Some principals (3%) also reported not having any autonomy over people. Looking at the scales in which principals reported either having autonomy or having a lot of autonomy, the area in which principals reported having the most autonomy was in the all-operations category (which is a composite of all areas except for curriculum) and in the area of autonomy over people with 63.6% of principals claiming to have this level of autonomy. Autonomy over money was the next highest with 60.6% of principals saying that they either have or have a lot of autonomy in this area. Table 4.1 summarizes the results for each scale.

Table 4.1 Levels of Autonomy and Scales for Measuring Defined Autonomy Reported by Denver Principals

	1 = No Autonomy	*2 = Some Autonomy*	*3 = Have Autonomy*	*4 = Have a Lot of Autonomy*	*Values for 3 and 4 combined*
People Autonomy	3%	33.4%	42.4%	21.2%	63.6%
All Operations Autonomy	0%	36.4%	51.5%	12.1%	63.6%
All Autonomies	3%	36.4%	51.5%	9.1%	60.6%
Money Autonomy	0%	39.4%	48.5%	12.1%	60.6%
PTM Autonomy	3%	39.4%	42.4%	15.2%	57.6%
Time Autonomy	0%	48.5%	36.3%	15.2%	51.5%
Curricular Autonomy	6.1%	51.5%	27.2%	15.2%	42.4%
Managed Instruction[a]	0%	3.2%	71%	25.8%	96.8%

[a] The scale for "presence of" managed instruction was 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree with statements supporting the district having MI.

Autonomy in the combined areas of people, time, and money was the next highest with 57.6% claiming to have or have a lot of autonomy in these combined areas. This was followed closely by autonomy over time in which 51.5% of principals said that had or had a lot of autonomy. Curricular autonomy was the area in which the fewest principals claimed to have or to have a lot of autonomy. Only 42.4% of the principals surveyed said they had or had a lot of autonomy in this area. This result perhaps corresponds to the results for the managed instruction scale, which finds that 96.8% of principals agree or strongly agree that the district (or their charter management organization) has managed instruction, or centralized control over curriculum in place.

Results for Other Autonomy Scales

Although the primary research questions do not focus on the other areas of autonomy studied, levels of autonomy reported by the Denver principals are included here for comparison purposes. Table 4.2 presents a summary of the autonomy levels for professional development, school improvement, enrollment (e.g., marketing their school for school choice), student discipline, operational services (facilities or food services), and district policy/decision-making. Not surprisingly, principals reported having the least amount of autonomy in the area of district policy and decision-making. This was followed by operational services, entailing things like food services or autonomy over facilities maintenance. They reported having the most autonomy in the areas of professional development, enrollment, or marketing their school, and student discipline. Interestingly, each of these areas had reports of higher degrees of autonomy than any of the levels described above in Table 4.1. The autonomy levels for school improvement are very similar to those reported above for autonomy over people and over operational matters generally.

Table 4.2 Levels for Other Areas of Autonomy Reported by Denver Principal

	1 = No Autonomy	*2 = Some Autonomy*	*3 = Have Autonomy*	*4 = Have a Lot of Autonomy*	*Values for 3 and 4 combined*
Professional Development	3%	18.2%	42.4%	36.4%	78.8
School Improvement	0%	36.4%	54.5%	9.1%	63.6
Enrollment	0%	24.2%	42.4%	33%	75.4
Student Discipline	0%	30.3%	42%	27.3%	69.3
Operational Services	6.1%	51.5%	30.3%	12.1%	42.4
District Policy	39.4%	51.5%	6.1%	3%	9.1

The Importance of Different Types of Autonomy

Curricular autonomy and autonomy over professional development were the two areas that principals felt were the most important, with 100% of principals indicating that they thought autonomy in these two areas were either important or very important. The importance ratings for each of the composite autonomy variables were also very high, at 97% of principals seeing all autonomies, operational autonomy, and autonomy in the areas of people, time, and money (combined) as either important or very important. Nearly all of the principals (97%) also thought that autonomy over people was either important or very important as well.

Most principals also felt that having autonomy in the areas of time, money, and school improvement was also either important or very important, with 93.9% of principals rating importance at these levels for each of these three scales. The combined importance rating for student discipline was 87.9%, for enrollment, 87.5%, managed instruction, 83.9%, and district policy it was 81.8%. These ratings indicate that Denver principals do value having autonomy in these areas, but not as much as in the other areas described above. Although a majority of Denver principals felt that having autonomy in the area of operational services such as facilities or food services was important, this category received the lowest overall rating for importance at 63.6%. Table 4.3 summarizes and ranks the importance ratings for each of the autonomy scales.

Table 4.3 Importance Rankings for Each Autonomy Scale

	1 = Not Important	*2 = Somewhat Important*	*3 = Important*	*4 = Very Important*	*Values for 3 and 4 combined*
Curricular Autonomy	0%	0%	60%	40%	100%
Professional Development	0%	0%	27.3%	72.7%	100%
All Autonomies	0%	3%	75.8%	21.2%	97%
All Operations Autonomy	0%	3%	72.8%	24.2%	97%
PTM Autonomy	0%	3%	66.7%	30.3%	97%
People Autonomy	0%	3%	42.5%	54.5%	97%
Time Autonomy	0%	6.1%	60.6%	33.3%	93.9%
Money Autonomy	0%	6.1%	69.7%	24.2%	93.9%
School Improvement	0%	6.1%	54.5%	39.4%	93.9%
Student Discipline	0%	12.1%	39.4%	48.5%	87.9%
Enrollment	0%	12.1%	33%	54.5%	87.5%
Managed Instruction[a]	0%	16.1%	35.5%	48.4%	83.9%
District Policy	3%	15.2%	63.6%	18.2%	81.8%
Operational Services	6.1%	30.3%	39.4%	24.2%	63.6%

[a] The scale for "value of" managed instruction was 1 = do not value, 2 = somewhat value, 3 = value, and 4 = highly value with statements supporting the district having MI.

Detecting Autonomy Gaps in Denver

Looking at the results for "level of" compared with the results of the "importance of" measures for each of the autonomy scales, it is possible to determine whether and to what degree a gap exists between the level of autonomy that principals currently have and the amount they feel that they should have, given the importance they attribute to that particular area of autonomy. A summary of the gap scores found for each autonomy area is also included. While this part of the analysis is not directly related to my original research question, it seemed worth including in order to better understand the context, including principals' overall interests in gaining more autonomy in certain areas and to follow the approach that was taken in the Adamowski et al. (2007) study. Table 4.4 depicts the levels, importance, and gap score for each of the types of autonomy measured on the survey. Items are ranked according to the size of the autonomy gap (measured as the difference between the degree of importance to principals and how much autonomy they actually have). A high autonomy gap is represented by a high negative number. The largest gap is in the area of autonomy over district policy (-72.7) followed by autonomy over curriculum (-57.6), time (-42.4), autonomy over people, time, and money-combined (-39.4), all autonomies (-36.4), autonomy over people (-33.4), autonomy over money (-33.3), autonomy over school improvement decisions (-30.3). The smallest gaps were found for student discipline (-18.6), other operational services (-21.2), and professional development (-21.2).

Gap measures were also developed for the managed instruction scale. These are presented in Table 4.5, below. Managed instruction had the lowest gap in terms of the degree to which it was valued compared with the degree to which it exists. In fact, it was the only gap that was positive suggesting that they may have more of it than they value (although this difference is minor). In addition, a gap score was calculated for the degree of quality principals identify with the implementation of managed instruction in Denver compared to its presence. Here, the gap is a bit higher, indicating that its quality, while still getting high marks from three quarters of the principals, could be improved.

Table 4.4 Autonomy Gaps According to Denver Principals

	Level	*1*	*2*	*3*	*4*	*3+4*	
		None	*Some*	*Have*	*A Lot*		*Gap*
	Importance	*1*	*2*	*3*	*4*	*3+4*	*Score*
		Not	*Somewhat*	*Imp*	*Very*		
District Policy	Level	39.4%	51.5%	6.1%	3%	9.1	-72.7
	Importance	3%	15.2%	63.6%	18.2%	81.8	
Curricular Autonomy	Level	6.1%	51.5%	27.2%	15.2%	42.4	-57.6
	Importance	0%	0%	60%	40%	100	
Time Autonomy	Level	0%	48.5%	36.3%	15.2%	51.5	-42.4
	Importance	0%	6.1%	60.6%	33.3%	93.9	
PTM Autonomy	Level	3%	39.4%	42.4%	15.2%	57.6	-39.4
	Importance	0%	3%	66.7%	30.3%	97	
All Autonomies	Level	3%	36.4%	51.5%	9.1%	60.6	-36.4
	Importance	0%	3%	75.8%	21.2%	97	
All Operations Autonomy	Level	0%	36.4%	51.5%	12.1%	63.6	-33.4
	Importance	0%	3%	72.8%	24.2%	97	
People Autonomy	Level	3%	33.4%	42.4%	21.2%	63.6	-33.4
	Importance	0%	3%	42.5%	54.5%	97	
Money Autonomy	Level	0%	39.4%	48.5%	12.1%	60.6	-33.3
	Importance	0%	6.1%	69.7%	24.2%	93.9	
School Improvement	Level	0%	36.4%	54.5%	9.1%	63.6	-30.3
	Importance	0%	6.1%	54.5%	39.4%	93.9	
Professional Development	Level	3%	18.2%	42.4%	36.4%	78.8	-21.2
	Importance	0%	0%	27.3%	72.7%	100	
Operational Services	Level	6.1%	51.5%	30.3%	12.1%	42.4	-21.2
	Importance	6.1%	30.3%	39.4%	24.2%	63.6	
Student Discipline	Level	0%	30.3%	42%	27.3%	69.3	-18.6
	Importance	0%	12.1%	39.4%	48.5%	87.9	
Enrollment	Level	0%	24.2%	42.4%	33%	75.4	-12.1
	Importance	0%	12.1%	33%	54.5%	87.5	

Table 4.5 Autonomy and Quality Gap for Managed Instruction

	Presence	*1 Strongly disagree*	*2 Disagree*	*3 Agree*	*4 Strongly Agree*	*3+4*	*Gap Score*
	Quality	*Poor*	*Fair*	*Good*	*Great*		
	Value	*Do not value*	*Do value*	*Somewhat value*	*Highly value*		
Managed Instruction	Presence	0%	3.2%	71%	25.8%	96.8	+12.9
	Quality	0%	22.6%	58%	19.4%	77.4	+19.4
	Value	0%	16.1%	35.5%	48.4%	83.9%	

Constraints on Principals' Autonomy

The principals were asked to rate the degree to which one of 13 possible constraints limited their autonomy. On average, 73.4% of the principals said that collectively, the 13 items were somewhat of a constraint. 13.3% of principals rated total constraints as very high and another 13.3% of principals rated the constraints, in total as very low or not at all.

Looking a little closer at the individual items, the specific constraints that are rated as high constraints become clear. The teachers' union is the constraint that most principals said was the greatest limitation to their autonomy with 36.4% of principals identifying the union as very much a constraint and another 27.3% of principals saying that it is a constraint. The second greatest constraint on principals' autonomy is federal laws and regulations which drew an average combined rating of being either very much a constraint (by 15.6% of principals) or a constraint (by 34.4% of principals) from 50% of the principals surveyed. This is closely followed by state laws and the school board for which 45.5% of principals see both as either very much a constraint or a constraint. Other aspects of the district are also viewed as constraints by more than 40% of principals.

Results confirmed that a few of the items listed were not at all considered to be constraints by the principals. First, alumni of their schools were not considered a constraint by over 90% of the principals surveyed. Second, charter authorizers were also not viewed as a constraint by 78.1% of the whole group. The lack of training or knowledge was also not considered by 72.7% of principals to stand in the way of them having more autonomy. Other factors that a majority of principals said were not constraints included, school traditions (69.7%), college expectations (68.8%), and market competition (50%).

While parental pressure was not considered to be a constraint by 45.5% of the principals, 21.2% said that it was a constraint and an additional 33.3% identified this as somewhat of a constraint. Over a third (36.4%) of principals claimed that their teachers and staff were not a constraint, however, 51.5% of principals said that they were somewhat of a constraint with an additional 12.1% identifying teachers as a constraint. Table 4.6 provides an overview of the ratings for the different constraints, ranked by what is considered by the principals to be the greatest constraints.

Table 4.6 Ranking of Constraints on Principals' Autonomy

	1 = Not a Constraint	*2 = Somewhat Constraint*	*3 = Is a Constraint*	*4 = Very Much a Constraint*	*Values for 3 and 4 combined*
Union	30.3%	6.1	27.3%	36.4%	63.7%
Federal laws & regulations	12.5%	37.5%	34.4%	15.6%	50%
State laws & regulations	12.1%	42.4%	27.3%	18.2%	45.5%
School board	27.3%	27.3%	36.4%	9.1%	45.5%
District/CMO culture/norms	24.2%	33.3%	33.3%	9.1%	45.5%
District/CMO policies	18.8%	40.6%	28.1%	12.5%	40.6%
Parental pressure	45.5%	33.3%	18.2%	3%	21.2%
Teachers and staff	36.4%	51.5%	12.1%	0%	12.1%
Market competition	50%	40.6%	6.3%	3.1%	9.4%
College expectations	68.8%	25%	6.3%	0%	6.3%
Lack of training	72.7%	21.2%	6.1%	0%	6.1%
Charter authorizers	78.1%	18.8%	3.1%	0%	3.1%
School traditions	69.7%	27.3%	3%	0%	3%
Alumni	90.9%	9.1%	0%	0%	0%

Principals' Motivations to Seek Autonomy

Principals were asked two questions to determine the degree to which they had, at some point, ever applied through one of the established channels (e.g., the innovation schools process) for additional autonomy as a principal or would consider applying at some point in the future. The purpose of these questions was to ascertain the degree of motivation each principal may have to seek autonomy now or at some point in the future.

Although the vast majority of the principals surveyed (83.3%) had not ever formally applied for additional autonomy, a majority (56.7%) said that they either have considered it or would consider it at some point. Five principals (16.7%) claimed to have applied for additional school autonomy as the leader of their current school. While these findings suggest that a good many principals are interested and motivated in seeking some level of school autonomy, there are still many who do not appear to be interested. A full thirteen of the principals surveyed (43.3%) said that they would not consider applying for additional autonomy at their school.

The principals were also asked whether or not they have the right autonomy over the right things in order to effectively lead and raise student achievement at their school. The purpose of this question was to determine their level of satisfaction with the autonomy they currently have. Indeed, a good majority of the principals who responded (63.6%) felt that they did, in fact, have the right amount of autonomy over the right things, at that point in time. Twelve principals (36.4%) felt otherwise.

Finally, the principals were asked to identify their general response when they do encounter constraints. They were asked, "Generally speaking, in your role as a principal at your current school, when you encounter constraints on your autonomy, to what degree do you accept them as a normal part of education and to what degree do you tend to take steps to work around them?" For this question, results were re-coded to reverse the scale so that a rating of a 1 meant that they accepted most constraints as a normal part of the public education and a rating of a 5 meant that they do everything they can to work around most constraints. The majority of principals indicated that they do take steps to work around most constraints with about one-third of the principals (36.4%) saying that they do what they can to work around most constraints and another 15.2% saying that they sometimes do. Just less than one-third (27.3%) of the principals indicated that they tend to accept most of the constraints as a normal part of public education with 9.1% giving a rating of 1 on this question and another 18.2% rating it a 2. Seven principals (21.2%) were mixed on this question giving it a rating of 3.

Relationship Between Leadership and Autonomy

This section addresses the second part of Research Question #1, regarding the relationship between technical leadership, adaptive leadership, autonomy, and defined autonomy. In order to answer this question, a bivariate correlation matrix was run on each of the primary scales used in the study, including the above-mentioned independent variables, but also the dependent variable—school growth gains—and each of the three control variables that are used in each analysis. Table 4.7 on the next page presents a summary of the results including the Pearson product moment correlations for each variable correlated with each of the others and the level of statistical significance it yields. The means, standard deviations, and sample sizes for each of the variables is also provided.

Table 4.7 Intercorrelations Between School Growth Gains, Three Control Variables and Primary Scales

Intercorrelations Between School Growth Gains, Three Control Variables and Primary Scales

	Correlations														
Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Technical Leadership	---														
2 Adaptive Leadership	.475**	---													
3 Total Leadership	.857**	.861**	---												
4 All Autonomies	.012	.144	.091	---											
5 Curricular Autonomy	-.112	.048	-.035	.818**	---										
6 Operation Autonomy	.027	.152	.104	.998**	.777**	---									
7 Autonomy for P T M	.016	.156	.100	.960**	.764**	.960**	---								
8 Autonomy for People	.070	.205	.160	.904**	.733**	.902**	.933**	---							
9 Autonomy for Time	-.030	.078	.028	.900**	.744**	.897**	.937**	.798**	---						
10 Autonomy for Money	-.004	.145	.083	.826**	.593**	.834**	.874**	.729**	.753*	---					
11 Managed Instruction	.247	.128	.213	.484**	.452**	.477*	.432*	.384*	.402*	.430*	---				
12 School Growth Gain	.094	-.003	.061	.053	-.010	.059	-.022	-.159	.082	.045	.172	---			
13 Baseline Score	.024	-.142	-.023	-.110	.041	-.126	-.206	-.268	-.044	-.287	.087	.288*	---		
14 Enrollment	.084	-.094	.050	-.382*	-.390*	-.372*	-.348*	-.322	-.351*	-.271	-.126	-.140	-.068	---	
15 ELL	.279	.221	.343*	.221	.115	.228	.218	.253	.178	.151	.275	-.152	-.191	-.112	---
M	138.11	283.61	.025	97.70	7.55	90.15	53.76	23.64	18.24	11.88	19.32	3.17	46.2%	493	24.07
SD	17.50	25.55	1.70	22.12	2.40	20.20	12.81	5.36	5.178	3.39	2.76	18.79	23.1%	342.7	18.99
n	45	36	36	33	33	33	33	33	33	33	31	48	48	48	48

** p < .01, * p < .05

The two primary leadership scales were moderately correlated with one another, *r* = .475 and this relationship is statistically significant at the .01 level. Both technical and adaptive leadership also correlate very highly with the total leadership score, a result that makes sense given that total leadership is comprised of these two variables. The highest correlation between the leadership variables and the autonomy scales was found between technical leadership and managed instruction, *r* = .247, however this result was not statistically significant. Adaptive leadership had the next highest correlation with English language learners (*r* = .221), autonomy over people at *r* = .205, also not significant, however. Positive correlations were found between adaptive leadership and autonomy over people, time, and money (*r* = .156), operational autonomy (*r* = .152), autonomy over money (*r* = .145), all autonomies (*r* = .144), and managed instruction (*r* = .145). Adaptive leadership had negative correlations with baseline score (*r* = -.142), enrollment (*r* = -.094), and school growth gains (*r* = -.003).

Technical leadership had a positive, non-significant correlation with managed instruction (*r* = .247) and a negative (also non-significant) correlation with curricular autonomy (*r* = -.112). Other negative correlations were found for technical leadership including with autonomy over time (*r* = -.030) and autonomy over money (*r* = -.004). Very small positive correlations existed between technical leadership and school growth gains (*r* = .094), enrollment (*r* = .084), autonomy for people (*r* = .070), operational autonomy (*r* = .027), baseline score (*r* = .024), autonomy over people, time, and money (*r* = .016) and all autonomies (*r* = .012).

Not surprisingly, the variables with the highest correlations with one another as well as those that were all statistically significant at the .01 level, were those related to the composite autonomy scales, most likely because they are each sub-scales of the scale measuring all autonomies. The highest correlation was between the all autonomies scale (all autonomies) and the scale for operational autonomy (operational autonomy), $r = .998$, $p < .01$. All autonomies was also highly correlated with the scale measuring autonomy for people, time, and money (PTM autonomy), $r = .960$, $p < .01$. PTM autonomy was also highly correlated with operational autonomy at $r = .906$, $p < .01$. Similarly, the scales for autonomy over people, autonomy over time, and autonomy over money were all highly correlated with the scale measuring autonomy on all three combined (PTM autonomy), $r = .933$, .937, and .874, respectively, and all significant at the .01 level.

Although they were also highly correlated with one another, the autonomy variables measuring various operational autonomies were less highly correlated to the autonomy variable measuring curricular autonomy (Pearson r ranges from .599 to .777, all statistically significant at the .01 level).

The concept of managed instruction was positively correlated to all of the other variables and most highly correlated with the all autonomy scale, $r = .484$, $p < .01$ followed by the operational autonomy scale, $r = .477$, $p < .05$, and the curricular autonomy scale, $r = .452$, $p < .01$. Relationships between managed instruction and other variables were moderate and significant at the .05 level (with autonomy for people, time, and money (combined), $r = .432$, $p < .05$, autonomy for money, $r = .430$, $p < .05$, autonomy for time, $r = .402$, $p < .05$, and autonomy for people, $r = .384$, $p < .05$. Managed instruction was also positively correlated with technical and adaptive leadership as well as the total leadership score, combined, however, these correlations were very low and not statistically significant (for technical leadership, *r* = .247, for adaptive leadership, *r* = .128, and for total leadership, *r* = .213).

Most of the relationships between the autonomy variables and baseline score were negative, with autonomy over money the strongest relationship at *r* = -.287 followed by autonomy over people at *r* = -.268. Other negative relationships between the autonomy variables and baseline score include autonomy over people, time, and money (combined), *r* = -.206, operational autonomy (*r* = -.126), all autonomies (*r* = -.110), and autonomy over time (*r* = -.044). Some positive relationships were found between baseline score and the autonomy variables. The highest was for managed instruction (*r* = .087). The only statistically significant relationship found between baseline score and another variable was with school growth gains (*r* = .288, *p* < .05).

None of the measured variables correlated significantly with school growth gains. The largest correlation between school growth gain and one of the independent variables was for managed instruction (*r* = .172), however this result was not statistically significant. The next largest relationship was between school growth gains and autonomy over people, however, somewhat surprisingly, this relationship was negative (*r* = -.159). Other correlations that were positive with school growth gains included technical leadership (*r* = .094), autonomy over time (*r* = .082), total leadership (*r* = .061), operational autonomy (*r* = .059), all autonomies (*r* = .053), and autonomy over money (*r* = .045). As described above, there was one other negative correlation with school growth gains and that was for adaptive leadership (*r* = -.003).

Addressing the Problem of Missing Data

As discussed above, although there were 48 school leaders who responded to the survey, only 30 provided complete responses with 18 dropping out at different points along the way, thus leaving several items within the primary scales (and in some cases, whole scales with items positioned toward the end of the survey) with no responses. This was disappointed and significantly limited the data and ultimately the analyses and potential conclusions that could be drawn. Although some effort to explore an alternative way to approach this challenge (e.g., through the use of multiple imputation (Graham, 2009; J. Hill, 2011; Jesse, 2013) was pursued, in the end, it was deemed overly complex and unfeasible using the statistical software program that I had available. Ultimately, the decision was made to proceed with the planned analyses using whatever data were available for each scale and related analysis. As a result, the foregoing analyses should be reviewed with the knowledge that they have a very limited degree of statistical power, and therefore, any conclusions drawn should be validated through further research.

Selection of Three Control Variables

First, a set of three control variables (Baseline score, Enrollment, and ELL) were selected based on their relatively higher correlations with school growth gains and the lower levels of correlation to each other. These three control variables were used consistently throughout each of the subsequent analyses, entered in the hierarchical multiple regressions in the same order, within Block 1 in each instance, allowing for clearer comparisons to be made.

Technical and Adaptive Leadership as Predictors of School Growth Gains

The first set of analyses focused solely on the two leadership variables, technical and adaptive. A series of three hierarchical regressions using different approaches to including the two variables in the model was conducted. Table 4.8 summarizes the results for the series of three hierarchical multiple regression analyses conducted on the leadership variables.

Table 4.8 Summary of Hierarchical Regression Analyses for Technical and Adaptive Leadership Predicting School Growth Gains

	Three Approaches to Analyzing Leadership Variables as Predictors								
	TL in Block 2 and AL in Block 3			*TL and AL in Block 2*			*Total Leadership Score (ZL)*		
Variable	$Adj\ R^2$	ΔR^2	β	$Adj\ R^2$	ΔR^2	β	$Adj\ R^2$	ΔR^2	β
Block 1	.031	.114		.031	.114		.031	.114	
Controls[a]									
Block 2	.034	.031							
TL			.202			.224			
AL				.003	.032	-.038			
ZL							.020	.018	.143
Block 3	.003	.001							
AL			-.038						
Total R^2	.146				.146		.132		
n	36				36		36		

[a] Control variables included Baseline score, Enrollment, and ELL
** $p < .05$, *$p < .10$

The first analysis included the control variables in Block 1, technical leadership in Block 2, and adaptive leadership in Block 3. Tests for multicollinearity indicated that even though technical and adaptive leadership were moderately correlated, $r = .475$, $p = .002$, multicollinearity was not a serious concern ($VIF = 1.824$ for technical leadership, 1.453 for adaptive leadership). Technical leadership was the first variable entered, followed by adaptive leadership, according to the theory. Results of the regression analysis showed larger effects for technical leadership ($Adjusted\ R^2 = .034$) than for adaptive leadership ($Adjusted\ R^2 = .003$), and a fair amount of variance explained by all five variables in combination, $R^2 = .146$, $F(5, 30) = 1.023$, $p = .422$, but the results were not statistically significant. Beta coefficients for the two variables were technical leadership, $\beta = .202$, $t = 1.053$, $p = .301$; adaptive leadership, $\beta = -.038$, $t = -.187$, $p = .853$.

A second regression analysis was conducted including both technical and adaptive leadership variables together, in Block 2. This approach resulted in the same overall result for the model, which was also non-significant, however, less so, $R^2 = .146$, $F(5, 30) = 1.023$, $p = .422$. Beta coefficients in this model were the same for adaptive leadership, $\beta = -.038$, $t = -.187$, $p = .853$. but slightly better for technical leadership, $\beta = .224$, $t = .984$, $p = .333$. All results were non-significant. A third regression was conducted with technical and adaptive leadership combined, using their z-scores, as one variable for total leadership. In this approach, tests showed a reduction in the concern for multicollinearity for total leadership, ($VIF = 1.156$ for total leadership). The overall amount of variance explained by this approach was slightly less than those previously described, $R^2 = .132$, however, the degree to which this result was due to chance decreased, $F(4, 31) = 1.175$, $p = .341$. The beta value for total leadership was $\beta = .143$, $t = .792$, $p = .434$, n.s.

From these analyses, it appears that leadership factors do explain some of the variance in school growth gains, however, not enough to be statistically significant. Technical leadership is consistently a stronger predictor (accounting for about 3% of variance in growth) than adaptive leadership, in each of the regressions. In fact, adaptive leadership may have a negative relationship with school growth gains. Nonetheless, when combined together in a single variable for total leadership (ZL), results reflect the best approach to including leadership as a variable in further hierarchical regressions since this model both explains some level of the variance, with the least probability that the result is due to chance, uses only one degree of freedom, and offers the lowest level of concern with respect to multicollinearity. Based on this result, it was determined that all future regression models in this study would include the same three controls identified above and use the total leadership score (ZL) as the one leadership variable representing both technical and adaptive leadership. This approach enables minimum loss of degrees of freedom, given the relatively small sample size in the study, while staying true to the research theory. This approach was important since hierarchical regression is sensitive to these factors.

Taking this approach also allowed for these foundational variables to be held constant while including different combinations of the third independent variable, defined autonomy. This was important since a major component of this study was focused on comparing the differences that different forms of autonomy make, above and beyond leadership factors, and on determining the best way to measure the concept of defined autonomy.

Autonomy Factors as Predictors of School Growth Gains

The next set of analyses continued with the hierarchical regression methodology and utilized the above model as the foundation with the same three control variables used in Block 1 (Baseline score, Enrollment, and ELL) and the combination of technical and adaptive leadership as a total leadership score (ZL) in Block 2.

To examine the unique contributions of each type of autonomy together with total leadership (technical and adaptive leadership combined) in the explanation of school growth gains, a series of four hierarchical multiple regressions were performed. Different variables representing different types of autonomy were each entered in the third step. Results for each analysis were then compared to determine the best overall result for autonomy as well as to explore the best possible approach to measuring the concept of defined autonomy.

In each of the below analyses, overall results for the control variables entered in Block 1 were significant at the $p < .05$ level ($R^2 = .238$, $F(3, 29) = 3.027$, $p = .045$). Overall results for Model 2 with the total leadership score (ZL) entered were also significant at $R^2 = .294$, $F(4, 28)$, $p = .039$, however, the Beta value for ZL, while greater than that of the other predictor variables, was not significant, $\beta = .251$, $t = 1.413$, $p = .169$.

The first regression analysis used a scale that measures the level of autonomy school leaders reported in all possible areas of autonomy (All autonomies) in Block 3 with Blocks 1 and 2 entered as described above. Tests for multicollinearity indicated low levels (*VIF* = 1.213 for total leadership and 1.238 for All autonomies). Results for this model were not statistically significant at the .05 level, but were at the .10 level and showed an overall effect for the model of $R^2 = .300$, $F(5, 27) = 2.313$, $p = .072$) and with the addition of All autonomies increasing the proportion of variance slightly ($R^2 = .300$), however *adjusted* R^2 dropped from .193 to .170 (Δ *adjusted* $R^2 = -.023$). The Beta coefficient for All autonomies was $\beta = .088$, $t = .489$, $p = .628$.

The second regression used a variable that measured a school's degree of autonomy with respect to curriculum (curricular autonomy) in Block 3, with Blocks 1 and 2 entered as described above. Tests for multicollinearity indicated acceptable levels (*VIF* = 1.213 for total leadership and 1.186 for curricular autonomy). Results were also not significant at the .05 level, but were at the .10 level, however, this model explains less and showed an overall result that explained less of the variance than the results for All autonomies, $R^2 = .297$, $F(5, 27) = 2.277$, p = .075. Although the addition of curricular autonomy did increase the proportion of variance explained very slightly ($\Delta R^2 = .003$), *adjusted* R^2 dropped from .193 to .166 (Δ *adjusted* $R^2 = -.027$) and the Beta value for curricular autonomy was negative, $\beta = -.059$, $t = -.338$, $p = .738$.

The third analysis used a variable that measured a school's level of autonomy in all other areas aside from curriculum (e.g., all operational areas). The variable operational autonomy was entered in Block 3. Tests for multicollinearity indicated acceptable levels (*VIF* = 1.213 for total leadership and 1.237 for operational autonomy). Results for this overall model were slightly better than the first two autonomy variables, however, still not statistically significant. The model explained over 30% of the variance in school growth gains, however, there is more than a 50% probability that this result is by chance (although this probability is an improvement over the first two autonomy variables examined), $R^2 = .302$, $F(5, 27) = 2.340$, $p = .069$. The Beta coefficient for operational autonomy was $\beta = .103$, $t = .578$, $p = .568$.

A fourth analysis was conducted using a variable measuring only aspects of autonomy directly associated with the school district's stated theory of action and related policies of working to give all school leaders more autonomy in the areas of people, time, and money (PTM autonomy). Multicollinearity tests indicated acceptable levels (VIF = 1.213 for total leadership and 1.247 for PTM autonomy). Results for the overall model that included this variable were also not statistically significant at the .05 level (but were at .10) and were the lowest of the group $R^2 = .295$, $F(5, 27) = 2.260$, $p = .077$. The Beta coefficient for PTM autonomy was $\beta = .041$, $t = 1.427$, $p = .165$. Table 4.9 on the next page presents a summary of the above results

Table 4.9 Summary of Hierarchical Regressions Showing Results for Different Autonomy Measures as Predictors of School Growth Gains

	Four different types of autonomy as predictors of school growth gains											
	AUT_all			AUT_curric			AUT_ops			AUT_ptm		
Variables	*Adj R^2*	*ΔR^2*	*β*	*Adj R^2*	*ΔR^2*	*β*	*Adj R^2*	*ΔR^2*	*β*	*Adj R^2*	*ΔR^2*	*β*
Block 1	.160**	.238**		.160**	.238**		.160**	.238**		.160**	.238**	
Controls[a]												
Block 2	.193**	.055		.193**	.055		.193**	.055		.193**	.055	
ZL			.259			.259			.259			.259
Block 3	.170	.006		.166	.003		.173	.009		.164	.001	
AUT_X			.088			-.059			.103			.041
Total R^2	.300*			.297*			.302*			.297*		
n	33			33			33			33		

[a] Control variables included Baseline score, Enrollment, and ELL

** p < .05, * p < .10

The findings for PTM autonomy were somewhat surprising given the district's overt emphasis on this as a key element of their reform strategy, combined with leadership development over the last several years. To investigate what could be going on here, an additional series of hierarchical regressions were run in the same manner described above using the three sub-variables of PTM autonomy. The goal was to determine what specific effects each element of the reform strategy may be having on school growth gains.

Results for the control variables were significant at the $p < .05$ level ($R^2 = .238$, $F(3, 29) = 3.027$, $p = .045$). Overall results for Model 2 with the total leadership score (ZL) entered were also significant at $R^2 = .294$, $F(4, 28)$, $p = .039$. The Beta values for ZL were also consistent across each of the three analyses and while greater than that of the other predictor variables, was not significant, $\beta = .259$, $t = 1.479$, $p = .150$. Summary results of these analyses are presented in Table 4.10.

Table 4.10 Summary of Hierarchical Regression Analyses for Autonomy in the areas of People, Time, and Money as Predictors of School Growth Gains

	Autonomies in the areas of People, Time, and Money as Predictors								
	autonomy over people			*autonomy over time*			*autonomy over money*		
Variable	*Adj R^2*	*ΔR^2*	*β*	*Adj R^2*	*ΔR^2*	*β*	*Adj R^2*	*ΔR^2*	*β*
Block 1	.160**	.238**		.160**	.238**		.160**	.238**	
Controls[a]									
Block 2	.193**	.055		.193**	.055		.193**	.055	
ZL			.259			.259			.259
Block 3	.173*	.009		.173*	.008		.185*	.019	
AUT_x			-.106			.098			.151
Total R^2	.302*			.302*			.312*		
n	33			33			33		

[a] Control variables included Baseline score, Enrollment, and ELL
** p < .05, * p < .10

As in the previous analyses, none of the overall results for models when any of the autonomy variables for people, time, or money were added were statistically significant at the .05 level. Although the models were all significant at the .10 level, results indicate that most of the variance is explained by the control variables. Multicollinearity tests for each of the three variables were at acceptable levels (autonomy over people, $VIF = 1.298$; autonomy over time, $VIF = 1.167$; and autonomy over money, $VIF = 1.217$). Results for each of the three sub-variables of autonomy showed some variation in their effects, however. The model that included the overall effect for autonomy over the use of resources (autonomy over money) was the highest at $R^2 = .312$, $F(5, 27) = 2.453$, $p = .059$. The Beta coefficient for autonomy over money was also the highest of all of the autonomy variables examined thus far at $\beta = .151$, $t = .857$, $p = .399$. The overall effect for autonomy over people (autonomy over people) was the second highest at $R^2 = .302$, $F(5, 27) = 2.340$, $p = .069$. The Beta coefficient for autonomy over people was negative, however, at $\beta = -.106$, $t = .580$, $p = .138$. Results for having autonomy over the use of time (autonomy over time) were similar ($R^2 = .302$, $F(5, 27) = 2.336$, $p = .069$), however the Beta value for this variable was positive at $\beta = .098$, $t = .566$, $p = .576$.

These results show that although not statistically significant at the .05 level, each of the sub-variables of autonomy over people, time, and money do explain a portion of the variance in school growth gains; however, having autonomy over people (e.g., the hiring and managing of staff) may have a negative relationship with the dependent variable. Further analyses are needed to investigate this finding. The results for all of the variables describing autonomies in the areas of people, time, and money were superior, however, than any of the other autonomy variables included in the first analysis, with the exception of operational autonomy. Since the results were not statistically significant, conclusions must be reached with great caution, however, these findings may suggest that having autonomy in specific "operational" areas when combined with leadership, particularly the areas of people, time, and especially money may make more of a difference in school growth gains than having autonomy in every possible area, especially curriculum.

Five Scenarios for Defining Defined Autonomy

This section offers five different approaches to defining defined autonomy. As discussed above, defined autonomy involves the notion of a limited form of autonomy wherein a district (or, a charter management organization, as the case may be) places certain restrictions on certain types of autonomy while enabling or encouraging other forms of autonomy. In the case of the Denver Public Schools, a form of defined autonomy was encouraged among schools, with autonomies in the areas of people, time, and money, and in some cases, other aspects of school operations encouraged, while autonomies in the area of curriculum and instruction were restricted. Thus, any measure of defined autonomy in this study needs to account for both the level of autonomy that a school may or may not have in various operational areas together with a measure for the district's (or charter organization's) more centralized control over curriculum.

Managed Instruction as a Key Element of Defined Autonomy

A key part of this study is focused on development of an effective measure for the concept of defined autonomy. Indeed, this study attempts to explore alternative possible measures of defined autonomy and to compare their respective contributions toward explaining a portion of the variance in school growth gains, together with technical and adaptive leadership. The above analyses explored the effects that several different types of autonomy have on school growth gains as variables entered in the third step of a hierarchical multiple regression. This next series of analyses combines selections from the above described autonomy variables, namely those focused on specific operational areas, together with an additional variable focused on the district's declared "non-negotiable" that curriculum be centrally managed and that schools within the district should not be granted autonomy over their curriculum.[1] In Denver, and in many other large urban districts, this concept is known as "Managed Instruction." Defined autonomy essentially means that a school has autonomy over some areas and not over others. In the case of Denver Public Schools, schools of different types (traditional, innovation, charter) had different levels and types of autonomy over many different things with charter schools having the greatest levels and types of autonomy than others. All traditional and innovation schools in the district, however, operated under more of a "defined autonomy" framework, wherein efforts were undertaken to grant schools more autonomies in the areas of people, time, and money while restricting autonomy in the area of curriculum.

Managed Instruction as a Predictor of School Growth Gains

Before combining the concept of managed instruction with one of the five different autonomy variables, it was important to identify the unique contribution to explaining the variance in school growth gains made by managed instruction by itself. To begin, a regression analysis using the variable for managed instruction (MI) by itself in

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[1] The district policy states that only schools that have shown consistently high performance should be allowed to have autonomy over the curriculum.

Block 3 was first conducted to identify the specific contribution that this variable makes toward school growth gains. Table 4.11 provides a summary of these results.

Table 4.11 Summary of Hierarchical Regression Analyses for Managed Instruction as a Predictor of School Growth Gains

	Managed Instruction		
Variable	*Adj R^2*	*ΔR^2*	*β*
Block 1	.206**	.285**	
Controls[a]			
Block 2	.240**	.056	
ZL			.237
Block 3	.241**	.026	
MI			.172
Total R^2	.368**		
n	31		

[a] Control variables included Baseline score, Enrollment, and ELL
** p < .05, * p < .10

Interestingly, while the results specific to the managed instruction variable were not statistically significant, the overall model with managed instruction explained more of the variance in school growth gains and was significant at the .05 level, after factoring in leadership and the controls, than any of the other autonomy variables examined thus far (R^2 = .368, $F(5, 25) = 2.905$, $p = .033$). The beta value, however, shows that while the contributions of managed instruction are the highest of any of other variables so far, it is still not statistically significant ($\beta = .172$, $t = 1.014$, $p = .320$). Although still with over 30% due to chance, this result suggests that the concept of managed instruction, regardless of any form of autonomy accompanying it, may be a key factor in explaining school growth gains, after accounting for leadership and control variables.

Five Scenarios for Defined Autonomy as a Predictor of School Growth Gains

Five different scenarios for measuring defined autonomy in Denver Public Schools were developed using one of the different measures of operational (non-curricular) autonomy examined above (operational autonomy, PTM autonomy, autonomy over people, autonomy over time, and AUT-money) combined with the measure for managed instruction (MI) discussed in the previous section. A series of hierarchical multiple regressions to analyze the specific contributions that each approach to measuring defined autonomy makes in explaining school growth gains after accounting for leadership and the control variables was conducted. As in the previous analyses, the control variables were entered in Block 1, total leadership score in Block 2, and defined autonomy variable 1, 2, 3, 4, and 5, respectively, were entered in Block 3.

Defined Autonomy Scenario 1

In this scenario, the concept of defined autonomy is measured through the combination of two variables: autonomy in all operational areas (All autonomies) combined with the presence of managed instruction in the district or charter management context (MI). Although the loss of degrees of freedom due to the addition of a sixth predictor variable was a concern, this and all other four scenarios, maintained each of the two variables measuring defined autonomy as separate and distinct variables. This enabled a more direct comparison of the relative contribution of each of the autonomy variables after accounting for the effects of the controls, leadership, and managed instruction variables.

Tests for multicollinearity demonstrated acceptable levels (ZL, *VIF* = 1.214; MI, *VIF* = 1.452; operational autonomy, *VIF* = 1.1612). Results for the control variables were significant at the $p < .05$ level ($R^2 = .285$, $F(3, 27) = 3.590$, $p = .026$). Overall results for Model 2 with the total leadership score (ZL) entered were also significant at $R^2 = .342$, $F(4, 26)$, $p = .024$, however, the Beta value for ZL, while greater than that of the other predictor variables, was not significant, $\beta = .262$, $t = 1.492$, $p = .148$.

Results for the overall model that included defined autonomy as measured in scenario 1 (MI combined with operational autonomy), after accounting for the controls and total leadership, showed a slight increase in the amount of variance explained, as compared with the previous models, $R^2 = .368$, $F(6, 24)$. This result was significant at $p = .065$, but not at the .05 level. The Beta values for each of the scenario 1 defined autonomy variables showed that each had an effect, with managed instruction having a much greater effect than the operational autonomy variable, but neither were statistically significant, (managed instruction (MI), $\beta = .168$, $t = .859$, $p = .399$; and autonomy in all operational areas (operational autonomy), $\beta = .168$, $t = .859$, $p = .399$).

Defined Autonomy Scenario 2

In this scenario, the concept of defined autonomy is measured through the combination of two variables: autonomy in the specific operational areas of people, time, and money, combined (PTM autonomy) together with the variable measuring the presence of managed instruction in the district or charter management context (MI). The sequence for entering these variables followed the exact same procedure as the previous analyses with the control variables entered in Block 1, total leadership (ZL) in Block 2, and each of the variables to measure defined autonomy entered in Block 3.

Multicollinearity tests revealed low levels ZL, $VIF = 1.214$; MI, $VIF = 1.412$; PTM autonomy, $VIF = 1.1632$. Results for the control variables were the same as in scenario 1, significant at the $p < .05$ level ($R^2 = .285$, $F(3, 27) = 3.590$, $p = .026$). Overall results for Model 2 with the total leadership score (ZL) entered were also the same as in scenario 1, significant at $R^2 = .342$, $F(4, 26) = 3.371$, $p = .024$, however, the Beta value for ZL, while greater than that of the other predictor variables, was not significant, $\beta = .262$, $t = 1.492$, $p = .148$.

Results for the effect of the overall model with defined autonomy as measured in scenario 2 (MI combined with PTM autonomy), after accounting for the controls and total leadership, showed a slight increase in the amount of variance explained, and a slightly higher increase than scenario 1, $R^2 = .371$, $F(6, 24) = 2.354$. This result was only significant at the .01 level ($p = .063$). The Beta values for each of the scenario 2 defined autonomy variables showed that each had an effect, with managed instruction having a much greater effect than the operational autonomy variable, but neither were statistically significant, (managed instruction (MI), $\beta = .201$, $t = 1.043$, $p = .308$; and autonomy in all operational areas (PTM autonomy), $\beta = -.070$, $t = -.338$, $p = .738$). Somewhat surprisingly, the effect for autonomy in the combined areas of people, time, and money was negative, indicating that it had a negative relationship to school growth gains. Table 4.12 provides a summary of the results for defined autonomy scenarios 1 and 2.

Table 4.12 Summary of Hierarchical Regression Analyses for Defined Autonomy Scenarios 1-2 as Predicators of School Growth Gains using Managed Instruction Combined with Autonomy for Operations and People, Time, and Money (combined)

	Scenarios 1-2 Analyzing Defined Autonomy as Predictors					
	DA Scenario 1: MI + operational autonomy			*DA Scenario 2: MI + PTM autonomy*		
Variable	*Adj R^2*	*ΔR^2*	*β*	*Adj R^2*	*ΔR^2*	*β*
Block 1	.206**	.285**		.206**	.285**	
Controls[a]						
Block 2	.240**	.056		.240**	.056	
ZL			.262			.262
Block 3	.209*	.026		.213*	.029	
MI			.168			.201
AUT_x			.009			-.070
Total R^2	.368*			.371*		
n	31			31		

[a] Control variables included Baseline score, Enrollment, and ELL
** p < .05, * p < .10

Defined Autonomy Scenario 3

Three additional scenarios for defined autonomy were developed to further explore what could be contributing to the negative effect found for autonomy in the areas of people, time, and money. A series of hierarchical multiple regressions were conducted following the same procedures outlined above to compare the results for each of the defined autonomy variables across the analyses. Results for these three additional scenarios are presented in Table 4.13.

Table 4.13 Summary of Hierarchical Regression Analyses for Defined Autonomy Scenarios 3-5 as Predictors of School Growth Gains using Managed Instruction combined with Autonomy over People, Autonomy over Time, and Autonomy over Money

	Scenarios 3-5 Analyzing Defined Autonomy as Predictors								
	DA Scenario 3: *MI + autonomy over people*			*DA Scenario 4:* *MI + autonomy over time*			*DA Scenario 5:* *MI + autonomy over money*		
Variable	*Adj R^2*	*ΔR^2*	*β*	*Adj R^2*	*ΔR^2*	*β*	*Adj R^2*	*ΔR^2*	*β*
Block 1	.206**	.285**		.206**	.285**		.206**	.285*	
Controls[a]									
Block 2	.240**	.056		.240**	.056		.240**	.056	
ZL			.262			.262			.262
Block 3	.248**	.057		.211*	.027		.210*	.026	
MI			.249			.155			.162
AUT_x			-.220			.044			.023
Total R^2	.398**			.369*			.368*		
n	31			31			31		

[a] Control variables included Baseline score, Enrollment, and ELL
** $p < .05$, * $p < .10$

Results for the control variables in each of the additional three scenarios were the same as in scenarios 1 and 2. Overall results for Model 2 with the total leadership score (ZL) entered were also the same as in scenarios 1 and 2 and the Beta values for ZL also mirrored those found in scenarios 1 and 2. In all cases, while the Beta value for total leadership was greater than those of the other predictor variables, was not statistically significant. In this scenario, defined autonomy focused only on inclusion of autonomy in the area of people, which involves aspects of hiring, assigning, evaluating, and dismissing staff within the school. Autonomy for people (autonomy over people) was combined with the variable measuring the presence of managed instruction (MI) as the way to measure defined autonomy.

The variables were first tested for multicollinearity and acceptable levels were found ZL, $VIF = 1.214$; MI, $VIF = 1.331$; autonomy over people, $VIF = 1.1580$. Results for the model in which defined autonomy was measured in scenario 3 (MI combined with autonomy over people), after accounting for the controls and total leadership, showed a slight increase in the amount of variance explained, and, indeed, higher increases than scenarios 1 and 2, $R^2 = .398$, $F(6, 24) = 2.646$, and this result was statistically significant at $p = .041$. Further, the adjusted R^2 rose from .240 to .248 when defined autonomy scenario 3 variables were added in Block 3. The Beta values for each of the scenario 3 defined autonomy variables showed that while each had an effect, with managed instruction having a much greater effect than the operational autonomy variable, neither were statistically significant, (managed instruction (MI), $\beta = .249$, $t = 1.364$, $p = .185$; and autonomy for people (autonomy over people), $\beta = -.220$, $t = -1.105$, $p = .148$). This finding, although not statistically significant, demonstrated the largest effect, to date, of any of the autonomy variables, however, as in scenario 2, the effect for autonomy over people appears to be a negative one for this sample.

Defined Autonomy Scenario 4

Scenario 4 uses the combination of managed instruction (MI) together with the variable measuring autonomy over the use of time (autonomy over time) to define autonomy. Multicollinearity tests were acceptable, ZL, $VIF = 1.214$; MI, $VIF = 1.338$; autonomy over time, $VIF = 1.444$. Scenario 4 results were not statistically significant at the .05 level, but were at the .10 level, $R^2 = .369$, $F(6, 24) = 2.338$, p = .064. None of the Beta values in scenario 4 were statistically significant, either, (managed instruction (MI), $\beta = .155$, $t = .828$, $p = .416$; and autonomy for people (autonomy over time), $\beta = .044$, $t = .226$, $p = .823$).

Defined Autonomy Scenario 5

Scenario 5 defines autonomy through the combination of autonomy over the use of resources (autonomy over money) and the presence of managed instruction (MI). Results of the multicollinearity tests were acceptable at ZL, *VIF* = 1.214; MI, *VIF* = 1.447; autonomy over money *VIF* = 1.578. Results for the effect of defined autonomy as measured in scenario 5 (MI combined with autonomy over money), after accounting for the controls and total leadership, were not statistically significant, $R^2 = .368$, $F(6, 24) = 2.327$, p = .065.The Beta values for each of the scenario 5 defined autonomy variables were also not statistically significant, (managed instruction (MI), $\beta = .162$, $t = .828$, $p = .416$; and autonomy for people (autonomy over money), $\beta = .023$, $t = .112$, $p = .148$).

Testing the Research Hypothesis

This section focuses on answering the third research question and as such conducts a direct test of the research hypothesis. As stated above, the research hypothesis states that school leaders that have higher levels of all three variables, technical leadership, adaptive leadership, and defined autonomy, will have greater levels of school growth gains than those leaders who have lower levels of these three factors. This hypothesis was tested using Analysis of Covariance (ANCOVA) and used two different methods of measuring “higher” levels on the three key variables in the study. The first method computed a single variable representing those who scored in the top-third or, high, on all of the primary measures. The second method computed a single variable representing those who scored in the top half, or, higher than others, on all of the primary measures. A series of three ANCOVAs were conducted on each of the two approaches in order to allow comparisons across three different scenarios for measuring defined autonomy, similar to the scenarios discussed above (only three were conducted, however).

Three Scenarios for Measuring Defined Autonomy

The three scenarios used align to the first three of the five scenarios described above, in terms of which autonomy variable was included. In the first scenario, defined autonomy is measured by combining autonomy over operations (operational autonomy) with managed instruction (MI). In the second scenario, defined autonomy is measured by combining autonomy over people, time, and money (combined) (PTM autonomy) with managed instruction (MI). The third scenario defines autonomy by combining autonomy over people (autonomy over people) with managed instruction (MI). Both scales for technical leadership and adaptive leadership are also included in the ANCOVA analyses.

ANCOVA tests of Hypothesis at "High" Levels

In the first set of ANCOVAs, a variable representing those who scored at a high level on all three variables was computed by splitting each primary variable—technical leadership, adaptive leadership, and defined autonomy—into tertiles and assigning those who scored in the top third a high score on each variable and those who scored in the bottom two thirds a medium or low score. Frequency distributions were run to determine the cut points at the 33rd and 66th percentiles and divide the distribution of scores on each of these three measures into three tertiles of low, medium, and high. Scores that fell below the 33rd percentile were identified as having a low level of each variable. Scores that fell between the 33rd and 66th percentile were identified as having a medium level of each variable. Scores that were at the 66th percentile and above were identified as having a high level of each variable. Categorical variables for each were created wherein cases with high scores were assigned a 1 and cases with both medium and low scores were each assigned a 0. This procedure was carried out to create categorical variables for high technical leadership (HighTL), high adaptive leadership (HighAL), and three different scenarios for measuring the concept of high levels of defined autonomy using different combinations of the autonomy scales. Then, the four variables were combined into one variable and those receiving the highest possible score were assigned a 1 while those receiving anything below this high level were assigned a 0.

Unfortunately, there were only two cases in which a high score was found across all of the primary variables. This was true across each of the three scenarios for defined autonomy. Despite this limiting result, the one-way ANCOVAs were run to determine whether or not high scores on all three variables predicted school growth gains. Table 4.14 summarizes the results of the ANCOVA analyses using three scenarios for measuring high levels of both total leadership and defined autonomy.

Table 4.14 Summary of ANCOVA Analyses for School Growth Gains by High Levels of Technical Leadership, Adaptive Leadership, and 3 Scenarios for Defined Autonomy

Source	*SS*	*df*	*MS*	*F*	*P*
Covariates					
Baseline Status	1,747.70	1	1,747.70	6.591	.017
Enrollment	179.20	1	179.20	.417	.525
ELL	110.47	1	110.47	.676	.419
Three Scenarios					
DA1-High	3.16	1	3.16	.012	.914
DA2-High	3.16	1	3.16	.012	.914
DA3-High	3.16	1	3.16	.012	.914
Error	6,098.71	23	265.16		
Total	8,764.11	27			

In each of these analyses, the dependent variable was school growth gains and the same three covariates that were used in the earlier hierarchical regressions were used—Baseline score, Enrollment, and English language learners. Tests were run using three different scenarios for defining autonomy, but each represented a high score across all of the variables. For each of the above analyses, tests for homogeneity of regression were acceptable $F(1, 26) = .76$, $p = .391$. Unfortunately, the results for each of the three scenarios yielded a very small effect size (partial eta squared = .001) and were not statistically significant, $F(1, 23) = .012$, $p = .914$. This result means that any variance in school growth gains cannot be explained by school leaders' having high levels of technical leadership, adaptive leadership, and defined autonomy. As such, the research hypothesis when measured at high levels was not supported.

ANCOVA Test of Hypothesis at “More” Levels

Since high levels (defined by scores falling above the 66th percentile for each variable) were not present across all of the key variables, an alternative method of splitting the distributions was used. Specifically, the median was used to split each distribution into two levels at the 50th percentile. Those scores that were at the median or above for each variable were identified as having a more of the variable. Scores falling below the median were identified as having a less of the variable. Categorical variables for each were created wherein cases with more (scores at the median and above) were assigned a 1 and cases with less (scores below the median) were each assigned a 0.

This procedure was carried out to create categorical variables for more technical leadership (MoreTL), more adaptive leadership (MoreAL), and three different scenarios for measuring the concept of more defined autonomy using different combinations of the autonomy scales. Then, each were combined into one variable representing those cases in which respondents scored above the median on all three variables—technical leadership, adaptive leadership, and each of the three different approaches for measuring defined autonomy. Fortunately, there were more cases in which this was the case. For defined autonomy scenarios 1 and 3, there were seven cases in which respondents scored above the median on all measures. For defined autonomy scenario 2, there were six cases.

One-way ANCOVAs were run to determine whether or not “more” scores on all three variables predicted school growth gains. Table 4.15 summarizes the results of the ANCOVA analyses using three scenarios for measuring more levels of both total leadership and defined autonomy.

Table 4.15 Summary of ANCOVA Analyses for School Growth Gains by More Levels of Technical Leadership, Adaptive Leadership, and 3 Scenarios for Defined Autonomy

Source	*SS*	*df*	*MS*	*F*	*P*
Baseline Status					
Scenarios 1 & 3	1,696.56	1	1,696.56	5.14	.032
Scenario 2	1,530.40	1	1,530.40	4.62	.041
Enrollment					
Scenarios 1 & 3	483.66	1	483.66	1.46	.237
Scenario 2	422.85	1	422.85	1.27	.269
ELL					
Scenarios 1 & 3	556.42	1	556.42	1.69	.206
Scenario 2	672.59	1	672.59	2.03	.166
DA1 & 3-More	25.80	1	25.80	.078	.782
DA2-More	7.712	1	7.712	.023	.880
Error					
Scenarios 1 & 3	8,588.20	26	330.32		
Scenario 2	8,606.28	26	331.01		
Total	12,049.55	30			

In each of these analyses, the dependent variable and covariates were the same as described above. Further, tests for homogeneity of regression were acceptable for all three scenarios, with $F(1, 29) = ..419$, $p = .523$ for defined autonomy scenarios 1 and 3, and $F(1, 29) = .637$, $p = .431$ for defined autonomy scenario 2.

Unfortunately, as above, the results for each of the three scenarios were also not statistically significant, $F(1, 26) = 25.80$, $p = .782$ for defined autonomy scenarios 1 and 3, and $F(1, 26) = 7.71$, $p = .880$. The effect sizes for each were also extremely low, however it was slightly higher for defined autonomy scenarios 1 and 3 (partial eta squared = .003) than it was for defined autonomy scenario 2 (partial eta squared = .001). As above, this result means that the variance in school growth gains for the sample studied cannot be explained by school leaders' having more levels of technical leadership, adaptive leadership, and defined autonomy. The research hypothesis when measured at more levels was not supported.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

Introduction

This chapter provides a summary of the main conclusions from the quantitative analyses used to answer the three research questions. First, an overview of the evolution of the research theory is provided, including a description of the core idea underlying the study and how it relates to current approaches to urban school reform. Second, a summary of the key findings and insights and implications from these results is presented for each of the three research questions. Insights from the results of research question one focus on the levels of and relationship between each of the core variables in the study. Insights from research question two focuses on the effects of each key variable on school growth gains within a series of hierarchical regressions that examine different approaches to defining autonomy. Insights from research question three findings describe the results of the hypothesis tests conducted using analysis of covariance (ANCOVA). A third section offers a summary of the implications for future research and urban education reform. Finally, a chapter summary highlights the main findings and their implications for future research and urban education reform.

Evolution of the Research Theory and Study Purpose

The impetus for this study emerged from my direct participation and observations of the efforts of an urban school district—Denver Public Schools—to implement strategies designed accelerate growth in student achievement. With far too numerous students and schools in the district performing at low level in 2005 when I first joined the board, district reformers actively studied strategies that seemed to be producing results in other urban districts and sought to implement them in Denver as part of the Denver Plan from 2006 through the present day. First, an effort sought to shift the district from a system where curriculum and instruction was highly variable across schools and classrooms to one characterized by a greater degree of instructional coherence, especially in the core subjects of reading, math, and science. Second, a deep and concerted effort evolved to recruit and/or develop new and more entrepreneurial approaches to school leadership among the school principals.

Third, a new framework with indicators setting clear expectations for results was introduced and promoted vigorously as a new way of thinking about accountability that aimed to shift the focus toward and provide incentives for achieving growth. This framework, known as the School Performance Framework (SPF) emphasized and gave greater weight to a school's growth scores representing an index of several different growth measures, rather than its overall achievement levels. This was intended to promote a paradigm shift in how state, district, and school leaders thought about accountability, especially in schools that were characterized by high levels of poverty, students with special needs, and English language learners. Namely, it was a shift away from the punishing form of accountability based only on a snapshot of performance espoused by No Child Left Behind (NCLB) toward a form of accountability that promised to level the playing field by holding educators accountable instead for the amount of growth gained over time. Denver embraced this value-added approach to accountability and sought to align multiple incentives for teachers and principals toward achieving high levels of growth, each year. The thinking was, in order for schools that are far behind in terms of overall performance to ever catch up an acceleration in the rate of growth achieved each year would be needed.

Fourth, district leaders embraced a theory of action that held at its core the belief that success lay in empowering school leaders, through a combination of incentives, leadership development, and specific autonomies (over people, time, and money), to motivate and provide them with the necessary tools to achieve greater results on the SFP. While leadership development was ongoing, autonomies were granted so that all principals had increased ability to hire teachers of their choosing and, in some cases, establish working conditions for those teachers that fell outside of the union contract (autonomy over people). The idea here was to enable school leaders to build and mobilize teams of educators within their schools who shared the responsibility for increasing student results. Additional autonomy was granted to enable school leaders more flexibility over the use of time and resources as well.

All of this took place in a district context that had long been characterized by school choice and a growing portfolio of different types of schools, each with varying degrees of autonomy—from independent charter schools to charters within networks of charter management organizations, to district-run innovation schools that were granted charter-like autonomies as well as traditional schools.

Many of these reforms were not unique to Denver, and indeed were prevalent in some form across most of the urban school districts in the nation. What made Denver different, in my view, from most of the other urban districts that were implementing similar strategies was the fact that Denver was attempting to combine and balance the use of both a centralizing and decentralizing approach to urban school reform. Most districts focus on implementing either one or the other. Very few attempt or succeed at both.

On the one hand, Denver was attempting to assert more centralized control over curriculum and instruction, based on its conditions of a highly mobile student population, a high degree of teacher turnover, and following the lead of many successful urban school districts that had shown steady and sustained results like Charlotte-Mecklenburg in North Carolina, Aldine, TX, and Long Beach, CA (Aarons, 2009; Aldine Board of Education, 2009; Archer, 2005b; Charlotte-Mecklenburg Board of Education, 2007). Indeed, DPS school board members and two superintendents studied these successful district reform strategies through a school board training program sponsored by the Broad Foundation and sought to bring a greater degree of coherence to instruction after years of site-based management and minimal centralization over curriculum (Archer, 2005b; McAdams, 2006).

On the other hand, Denver was also attempting to decentralize decision-making to the schools, but only in certain operational areas, as a way of replicating what many felt were some of the conditions that had helped to make some of the charter schools successful. Following the example of other urban districts like New York City, Oakland, and Hartford (Center on Reinventing Public Education, 2013), DPS took steps to not only increase a certain level of autonomy and flexibilities across all schools in the areas of people, time, and money, but to provide incentives for and even to cultivate new school models that took these and other autonomies even further (Colorado Department of Education, 2013c; Connors et al., 2012; Massachusetts Executive Office of Education, 2013; Price et al., 2011). Recognizing that, over time, such a portfolio of autonomous schools may require new ways of organizing management and oversight, the district established a new department, the Office of School Reform and Innovation, to develop new models for this work, and to change the long-established practices and ultimately, the relationship of the district to its schools, over time. The underlying idea was to transform the district's central office to become more service- and performance-oriented, rather than compliance-driven, as most bureaucracies, and indeed Denver's central office became.

Ultimately, the district, beginning with the school board developed and adopted a theory of action that sought to balance this managed instruction approach with the notion of "performance empowerment." Although the school board's original theory of action began with a clear focus on managed instruction, over time, it evolved to incorporate the notion of school autonomy and other aspects of "performance empowerment." In 2009, the board's theory of action was revised to reflect this balance. As the introduction to this document reads, "The district's revised Theory of Action combines existing elements of our current system of centrally managed instruction with new elements of Performance Empowerment." The document goes on to describe the key elements of its commitment to centrally managing instruction and then introduces the concept of Performance Empowerment, framed by three pillars: capacity, autonomy, and accountability. The document commits the district to building the skills and capacity necessary to succeed, and to promoting autonomy to those who demonstrate such capacity. "DPS will augment its centrally controlled instructional practices by promoting autonomy for schools in the areas of people, time, and money. The concept is to provide critical supports to schools while ensuring that autonomy is closely coupled with accountability for results" (DPS Board Theory of Action, 2009).

As a school board member during the time when this combination of district-wide reforms was discussed, debated, ultimately implemented, I naturally became very curious about their possibilities for success. While it had become clear, through research and practice that school leadership matters, the kind of leadership needed to bring about an acceleration in a school's growth score—a kind of turnaround leadership—was not yet clear in the research nor in practice. I became highly interested in this and identified adaptive leadership as a possible source of turnaround leadership.

School autonomy, as one of the key features of charter schools was, for many, associated with better outcomes for students, although research on this factor by itself, was and still is, quite mixed. Research conducted for my doctoral program together with my professional responsibilities at McREL led me to the discovery of the concept of defined autonomy, representing a more limited form of school autonomy. This concept seemed aligned with what Denver was attempting to bring about within the district as it simultaneously worked to implement managed instruction while promoting increased school autonomy in the areas of people, time, and money. I decided that this factor needed further examination in Denver as well.

As I reflected on these reforms over time, the central question, it seemed to me, had to do with the nature of the "simultaneous tight-loose solution" that Fullan (2008b) had referred to. Namely, it seemed important to know how tightly coupled the district ought to be with its schools, and for which things, and how loosely coupled the district ought to be with its schools, and for which things. Either way, it was clear that leadership capacity, and specifically, a kind of school leadership capacity that aligned well with the district's tight-loose balance, would be a critical factor. In other words, if the district chose to have a very tightly managed relationship on all matters with schools, successful school leaders would need to be able to operate well in that type of environment. Alternatively, a district that chose to have a very loosely managed relationship on all matters with its schools would require a different brand of school leader to be successful. What kind of school leadership would be successful in the Denver context, where the district was both tight on its management of some things, namely curriculum, and loose on other things, namely people, time, and money (i.e., defined autonomy)? In my mind, it would need to be a school leader, or set of school leaders, who were not only effective in the core elements of school leadership (technical leadership), but were adept at adapting in an ever-changing environment, taking initiative on behalf of their school, seeking and making good use of expanded authority, while mobilizing others within their school toward change. These abilities and actions seemed aligned with those of adaptive leadership.

Ultimately, the combination of these experiences and related research led me to become curious about each of these three variables: effective school leadership (technical leadership), entrepreneurial school leadership that effectively makes use of autonomies and mobilizes others toward change and results (adaptive leadership), and school autonomy in the specific areas of people time and money while curriculum and instruction are managed more centrally (defined autonomy). I wanted to know the extent to which they exist in the Denver Public Schools and what, if any, their relationship was to each other, and to the ultimate goal of increasing school growth measures (Research

Question 1). I also wanted to know if, when taken together, they played a role in predicting school growth gains (Research Question 2). Finally, I wanted to test the hypothesis that I had developed over time which stated that school leaders who had high levels of technical leadership, high levels of adaptive leadership, and high levels of defined autonomy, would produce greater school growth gains than others (Research Question 3).

This dissertation study set out to answer each of these three questions. Much was learned through the process as efforts were undertaken to develop a useful measure (or set of measures) for the concept of defined autonomy, which was the only concept in the study that, to my knowledge, had not been directly measured in any of the previous research. Key informant interviews helped me to develop an approach to measuring this concept that combined new items for managed instruction with a scale that measures principals' perceptions of the level of autonomy they have in different school academic and operational areas. As differences in the various sub-scales for measuring autonomy became apparent, it soon became clear that not only may there be more than one way to measure defined autonomy in the Denver context, but that comparisons of autonomies in different specific areas may yield different results. Thus, incorporating ways to compare different aspects of autonomy with one another and using these different approaches to measuring defined autonomy became a key feature of my study, in addition to answering the original research questions.

Research Question 1

This section discusses insights from the findings for Research Question 1 which sought to identify the levels of technical and adaptive leadership among Denver principals as well as the degree of defined autonomy that each has. Research Question 1 also aimed to identify the relationship of each of these variables with one another as well as to school growth gains.

Levels of Leadership and Autonomy in Denver

With respect to the levels of each variable among the school leaders in the district, principals scored relatively high on both variables and there was not much variation, on average, in the responses for both technical leadership and adaptive leadership. The high levels scored for technical leadership was not surprising, given the self-reported nature of the survey. Indeed, over 89% of the principals said that they were either effective or very effective school leaders. Levels of adaptive leadership were also high with over 90% of the principals employing adaptive organizational behaviors either usually (55.6%) or almost always (36.1%), which was the highest possible level. Although an inflated set of responses was expected for technical leadership, this high level and lack of variation was somewhat more surprising for the adaptive leadership scale since its items were less directly associated with known standards of practice for school leadership. While it may well be possible that Denver school leaders are, in fact, high on both factors of leadership, it is more likely that these results are inflated due to their self-reported nature. Further study that triangulates such self-reported results with other measures for technical and adaptive leadership is needed in order to obtain a true measure of these concepts among Denver school leaders.

With respect to school autonomy, results confirm that all Denver schools, including traditional schools, operate with a fair amount of autonomy in several different areas. As expected, principals reported having the most autonomy over operational areas, with autonomy over people being the highest (63.6%), followed by money (60.6%) and time (57.6%). The results also confirmed that, following the district's efforts to manage instruction, far fewer principals have autonomy over curriculum (42.4%). Aligned to this, the vast majority (96.8%) agreed that the district was implementing a managed instruction approach to curriculum, although views regarding the degree to which it is valued (83.9%) and the quality with which it was being implemented were also high, but varied slightly (77.4%). These results affirm the implementation of DPS' theory of action regarding autonomy for people, time and money as well as its approach to managed instruction. With over 83% of the principals saying that they value the district's efforts at managed instruction and over three-fourths indicating that it is being implemented with quality, this approach to reform appears to be well supported by the Denver principals in this sample.

Interestingly, however, when asked to rate the importance of each area of autonomy, 100% of principals said that it was very important to have autonomy over curriculum, making autonomy over curriculum what is considered to be the most important type of autonomy, alongside autonomy over professional development, according to the survey results. Indeed, on the autonomy gap measure in Table 4.4, which calculated a gap score based on the difference between the level of importance a particular autonomy area is considered and the degree to which principals actually have autonomy in this area, curricular autonomy had the second-highest gap at -57.6%.

These somewhat conflicting results may indicate that although principals in general appreciate the district's efforts to generate instructional coherence through managed instruction, they still may wish to have a greater degree of flexibility in the area of curriculum than the district had thus far allowed. It may be that principals want more flexibility to build on or expand upon the district promoted curriculum, especially now that it is more well established across the district. On the other hand, with the onset of the nationally promoted common core standards, the district may still wish to maintain its centrally managed approach to curriculum to expedite educators' ability to get up to speed on the new standards and expectations for student learning.

Similarly, although the results clearly indicate that the majority (over 60%) of Denver principals benefit from a fair amount of autonomy in the three key areas of people, time, and money, nearly all thought it was very important to have autonomies in each of these areas. Indeed the autonomy gap scores for these areas ranged from -42.4 for autonomy over time (the largest gap) to -33.4 for autonomy over people to -33.3 for autonomy over money. These results show that the majority of principals would like to have even more autonomy in each of these areas, especially autonomy over the use of time. Given that despite the autonomies achieved, the principals identified the teachers' union as the entity that most constrains their autonomy (63.7% identified the union as either a constraint or very much a constraint), and since the contract governs a large degree of a principals' flexibility in hiring and managing the use of faculty time (autonomy over people and time), it is not surprising to see this result. Interestingly, though, federal and state regulations were identified as the second greatest constraints and more constraining than the district itself. This indicates that the district may be accomplishing its intentional goal of "getting out of the way" in Denver. Federal and state policies, however, do still appear to be in the way, according to the Denver principals. More research is needed to confirm whether or not these conclusions are indeed true.

A majority of Denver principals do appear to be motivated to pursue and make use of additional autonomy, which may provide evidence supporting the district's success at developing more of such entrepreneurial-style school leaders. Indeed, more than half of the principals said that they do what they can to work around most constraints and autonomies that confront them. That said, just over 40% did not wish to pursue more autonomy with 27.3% saying that they tend to accept the constraints on their autonomy, indicating that some may still prefer the status quo. It may also be the case that having more autonomy is neither the right thing for every school leader nor for every school. Most school leaders felt that they had the right amount of autonomy over the right things.

These findings offer some initial insights into the various motivations of Denver principals to pursue (or to avoid) additional autonomy. Additional research is needed in order to further understand these findings and what relationship, if any, motivation for autonomy may have on school growth gains or other outcome variables.

Relationships Between Leadership, Autonomy, and School Growth Gains

The study findings offered some evidence of relationships between variables that were expected, such as a relatively high between technical and adaptive leadership, as well as very high correlations between related types of autonomies. More surprising, however, were the relatively low relationships between each of the independent variables in the study with the dependent variable. Also somewhat surprising were some of the negative relationships between types of autonomy and leadership variables as well as the dependent variable. While a negative relationship between curricular autonomy and leadership as well as school growth gains was found, it aligned with the research theory, and therefore was not very surprising. Although small in size, and not statistically significant, the negative relationship between adaptive leadership and school growth gains was not expected. More surprising was the negative relationship, though also not statistically significant, found between school growth gains and autonomy over people (-.159).

The correlation matrix also revealed other interesting patterns, such as higher correlations between the three key autonomy areas of people, time, and money, with adaptive leadership than those autonomies have with technical leadership. Alternatively, managed instruction had a stronger relationship with technical leadership than it did with adaptive leadership. These findings are perhaps not all that surprising given the fact that successful leadership of a school in a managed instruction environment likely requires effective technical leadership whereas making effective use of autonomies may require a different type of leadership, like adaptive. Further research is needed to confirm this theory, however.

The fact that managed instruction offered the highest correlation with school growth gains, and was positive, was a somewhat surprising finding. Although this result was not statistically significant, it signaled some level of strength in the managed instruction scale to potentially explain some of the variance on the dependent variable.

Research Question 2

This section discusses insights from the findings for Research Question 2, which sought to identify the extent to which the three key variables, in combination, predict the outcome of school growth gains, after accounting for control variables. A series of hierarchical regression analyses were used incorporating a variable for total leadership, which represented technical and adaptive leadership combined along with one of five different scenarios for measuring defined autonomy. This approach was used in order to isolate and compare the differences in possible effects across the different approaches to measuring defined autonomy. The same variables for total leadership, school growth gains, which was the dependent variable, and the three controls (Baseline Score, Enrollment, and ELL) were used in each analysis.

Leadership and Autonomy as Predictors of School Growth Gains

I began by looking at the leadership variables, by themselves, and then in combination, to see if they, either individually, or together, explained any of the variance in school growth gains. Although the results yielded a modest effect for the combined leadership score, potentially explaining approximately 13% of the variance in school growth gains, it was not statistically significant at the .05 or the .10 level. Nonetheless, the comparisons of the two leadership variables in this set of analyses revealed not only that the bulk of any variance explained by the leadership factors in the study would likely be explained by technical and not adaptive leadership, but that adaptive leadership, in fact, had a negative effect on school growth gains. As discussed above in the section discussing the relationship between variables, this result was disappointing given the emphasis on adaptive leadership in the research theory and its theorized relationship to turnaround capacity. Despite this negative effect, it was extremely small in size, and therefore, the decision was made to combine technical and adaptive leadership together in the subsequent analyses in order to preserve degrees of freedom and keep the focus on comparing the defined autonomy scenarios.

The second set of analyses focused on the addition of "level of" autonomy variables as single variables in Block 3. These regressions used four different types of autonomy along with the other variables for leadership as well as the controls. From these analyses, it appears that autonomy, by itself, does not contribute to the overall effect, and in fact, may reduce the effects for leadership, which were statistically significant at the .05 level, explaining approximately 19% of the variance. Indeed, the adjusted R squared went down in every case, after each of the autonomy variables were entered in Block 3 (although these results were not significant). Differences across the models, however, revealed that the model explaining the greatest amount of variance (approximately 30% for the full model) was the one that included autonomy over operational areas, and this result was statistically significant at $p < .10$. The specific effect for autonomy over operations was also the highest in this model at $\beta = .103$, however this was not a significant result.

Although the results were close, I had anticipated that the results for autonomy over people, time, and money to yield the best results, given my research theory and the district's explicit focus on these three areas of autonomy. To investigate further, I conducted an additional series of analyses looking specifically at autonomy within each of these areas—people, time, and money—separately. These findings proved somewhat interesting with the model that included autonomy over resources (money) yielding the best overall result, $R^2 = .312$, $p < .10$. Autonomy over money also produced the highest Beta value of the three, and, indeed, the highest of each of the other autonomy variables studied above as well, although it was not statistically significant ($\beta = .151$). Although this result seemed stronger than that produced by models including any of the other autonomy variables, it still must be noted that the addition of autonomy over money (and all of the other autonomy variables) reduced both the adjusted R^2 and the change in R^2. The reduction when autonomy over money was added, was less, however, than the others. This result may indicate that although likely a very small effect, having more autonomy over the use of resources in a school may be more important than having autonomy in other areas. Further research is needed to confirm this conclusion, however.

The negative effect of autonomy over people remained a surprise, as explained in the above section. Although not statistically significant, the isolated effect of autonomy over people was the second highest of all of the autonomy variables in the series, however, it had was negatively associated with school growth gains (β = -.106). This may mean that in the sample studied, the more autonomy a principal has over human capital management within a school, the smaller the school growth gains will be. This finding was quite disappointing given the research theory and given the concerted effort and focus placed on expanding autonomy over people within the district, not to mention the growing national trend to promote more school-based human capital management among school leaders. More research is needed involving a larger sample size and possibly better measures for these variables to examine this puzzling result.

Looking at these results all together, it appears that the leadership factors both by themselves and in combination with autonomy, explain more of the variance in school growth gains than any of the autonomy factors do. Indeed, none of the autonomy variables, with the possible exception of managed instruction, appear to have much effect without the presence of leadership capacity. Still neither leadership nor autonomy variables presented effects without the addition of the control variables.

Defined Autonomy as a Predictor of School Growth Gains

Five scenarios for defining autonomy were used in a series of hierarchical regression analyses. Prior to analyzing the series, a separate regression analysis was run looking only at managed instruction and found that not only did this overall model yield the highest statistically significant results of any in the study thus far, but there was a positive effect, although very slight and not, by itself, significant, for managed instruction. Further, the Beta value for managed instruction was the highest of any of the autonomy variables examined thus far ($\beta = .172$, n.s.). This result indicates that managed instruction may be more positively associated with school growth gains than any of the autonomy variables examined thus far.

The results of the regression series' showed that of the two defined autonomy variables that combine various types of autonomy (in the aggregate) with managed instruction, the one with autonomy over people, time, and money (combined) yielded a slightly stronger result ($R^2 = .371$), $p < .10$, than did autonomy over operations, more generally ($R^2 = .368$), $p < .10$. Although a minor effect, this result appears to align with the research theory and with Denver's explicit focus on leadership together with defined autonomy in the areas of people, time, and money within the context of managed instruction. The results were not statistically significant, however, for the specific variables within defined autonomy, and furthermore, it appears that most of the effect, to the degree that there is one, is likely explained by the managed instruction component of defined autonomy instead of the specific autonomies themselves. This is a minor difference, however, and it should be noted that the adjusted R2 was still reduced when the defined autonomy variables were added to the model.

The additional series of regressions looking more closely at scenarios for measuring defined autonomy using managed instruction with autonomy over people, time, and money (separately) proved interesting. The best overall model for explaining variance in school growth gains was defined autonomy scenario 3 in which managed instruction was used together with autonomy over people ($R^2 = .398$, $p < .05$). In fact, this was the only model of those examined in the study that produced a statistically significant result at the .05 level. Unlike any of the other scenarios, the addition of this way of measuring defined autonomy to the model increased adjusted R^2, which rose from .240 in Block 2, which had the total leadership variable to .248 in Block 3, and this result was also statistically significant. The isolated effect of managed instruction in this model was positive, and the highest thus far at $\beta = .249$, however it was not statistically significant. The effect for autonomy over people was negative, at $\beta = -.220$, but was not statistically significant at the .05 or the .10 levels.

This result means that leadership as measured by the combination of technical and adaptive leadership together with defined autonomy as measured by the combination of managed instruction with autonomy over people explains approximately 5.7% of the variance in school growth gains, after accounting for the controls and the overall model with the controls explains approximately 40% of the gains. Aside from the controls, the bulk of the variance is explained by the leadership factors (5.6%) and only an additional .1% of the variance can be explained by defined autonomy, which is a very small amount. While it is tempting to attach meaning to this result as lending some measure of support for the notion of defined autonomy, particularly with managed instruction as its core component, as a possible contributor to school growth gains, the effect and statistical power of the overall model are both too small to draw any conclusions. What it does suggest, however, is that these factors warrant further investigation by researchers and perhaps the leaders of the Denver Public Schools.

The negative effect for autonomy over people in this analysis remains puzzling. Some possible explanations may be that as indicated above, while a majority of principals say they do have some level of flexibility in the area of autonomy over people, it may not yet be at the level they would like it to be. With the union identified as the greatest constraint on principals' autonomy, despite whatever autonomies they have over people, this explanation is plausible. The district may have opened up flexibility in some aspects of human capital management, but the union contract may still contain other critical aspects of human capital management that are constraining.

Another explanation could be that while principals in the study sample say that they do have autonomy in this area, which involves hiring, assigning, evaluating, transferring, dismissing, and/or discharging staff, they may not necessarily be actually using these autonomies as much as they could be or in the most effective ways. While leadership development efforts were ongoing within the district, efforts to train and support teachers to become better managers of human capital were just beginning in the district at the time of the study. Many traditional Denver principals may have never been trained how to make strategic hiring, assignment, and other human capital management decisions that could improve student results. Without this background or capacity to make good use of autonomy over people, having such autonomy may not lead to results.

Further, at the time of the study, efforts to rigorously evaluate teachers for effectiveness through a new teacher evaluation system were just beginning to be discussed and were by no means implemented in the district during that time. Without reliable data providing information regarding the effectiveness of the current teachers within a school or potential teachers to be hired, the making of such staffing decisions may not be as targeted, effective, or aligned to producing the results desired. It would be interesting to replicate this study incorporating such measures of teacher effectiveness (along with a larger overall sample size) to see if this made a difference.

Results for the other two regressions in the series using the other two autonomy variables with managed instruction showed that in the context of managed instruction, the model using autonomy over time produced a slightly better result ($R^2 = .369, p < .10$) than the model using autonomy over money ($R^2 = .368, p < .10$). Comparing this to the above result where autonomy over money produced the stronger result, when managed instruction was not included, is interesting. This may mean that when managed instruction is present, autonomy over the use of resources is less important because more resources focused on instruction are coming from the district. When managed instruction is not present within a district, or a charter school, it is possible that autonomy over resources is more important. More research is needed to explore this theme.

Despite some of these interesting patterns in the data, it is very clear from the overall results across all of these analyses that by and large, the data are not sufficiently strong enough to support the research theory. This is the case for several reasons. First, complete data was only obtained from 30 principals, representing only 6% of the population and far less than the recommended ratio of participants to variables needed. Indeed, this factor drastically reduces the number of variables that could be used in the study with any degree of statistical power. Typically, at least 10 participants per variable are recommended. Together with the three controls, this study involved up to six variables for each analysis, which would mean that I needed to have at least 60 participants in order to assure a sound result.

The second challenge pertained to the exclusive reliance of self-report to measure principals' level of leadership effectiveness. While the results indicate some level of evidence supporting for the notion that leadership matters, the fact that scores on both of the two leadership scales were relatively high, across the board indicates that the scales were inflated due to the exclusive reliance on self-reported data. An approach that would have triangulated these data with reports from teachers, supervisors, or another method of determining principals' leadership effectiveness would have ensured that the data more accurately reflected the range of leadership effectiveness that more likely exists among Denver principals.

A third challenge in conducting this study has to do with the possible misalignment of assessing a school's autonomy (how much and which types) solely through the perceptions of a principal without more clearly understanding more about not only the formal autonomies that schools have the option to exercise, but the degree to which and the quality with which they do exercise increased decision-making associated with these autonomies. Understanding these types of decision-making strategies alongside any other reforms that might be taking place within each school (and the district or charter organization) would be important in order to isolate and determine whether or not it was the autonomy itself and not other reform efforts that might be producing an effect.

Finally, a deeper understanding of each school's structural characteristics is likely far more important to be able to isolate the effects of school autonomy than this study attempted to accomplish. Key contextual factors such as enrollment, socio-economic status, size, school type, recruitment of students, grade-level, teacher quality, parental SES, performance history, and participation in a charter management organization as well as other reform efforts influencing the school would all be important to understand. While some attempts were made to collect data pertaining to some of these factors within this study, the need to limit the number of variables in the analyses prevented my ability to give them full examination without compromising the mathematical integrity of the procedures.

Research Question 3

The hypothesis proposed at the beginning of this study stated that school leaders that possess higher levels of each of the three primary variables of technical leadership, adaptive leadership, and defined autonomy would produce higher levels of school growth gains for their schools. This hypothesis was tested by conducting a series of analyses of covariance (ANCOVA) following three of the five approaches to measuring defined autonomy. Two methods to determine "higher" levels were used. The first method split results for each of the key variables into tertiles and only those that fell in the top third were labeled as "high." Only two cases occurred in which a respondent had high scores across all of the measures and the ANCOVA results were both low and not statistically significant. The research hypothesis using the "high" method was thus rejected.

The second method split results for each of the key variables at the median and only those that fell above the median were labeled as "more." Seven cases arose in which respondents had scores above the median on all variables in two of the scenarios and six cases with this result in one scenario. Despite the existence of more cases in the analysis using this approach, the results were also not statistically significant and the hypothesis using the "more" method was also rejected. Based on these results, any variance found in school growth gains in this study sample cannot be explained by either "high" or "more" levels of technical leadership, adaptive leadership, and defined autonomy.

This result was not surprising given the low overall effects for each variable in the regression analyses along with the loss of statistical power due to the smaller than expected sample size. It's possible that a stronger result could be obtained if the study were replicated using a larger sample size. The use of additional measures to triangulate results on the self-reported leadership measures and thus producing more variation in the leadership results might improve the results as well along with additional measures to understand the degree of effectiveness with which the various autonomies are used, including possible measures of teacher effectiveness.

Implications for Future Research

While the role of school leadership in producing improved results for students is increasingly well-known, understanding the specific types of school leadership needed within specific district contexts that are characterized by some combination of a tight-loose continuum around academic areas (curriculum, professional development, etc.) and operational areas (people, time, money, and the like) is not. Although the overall findings of this study were not strong, some of the results indicate a level of support for further investigation of the underlying research theory and for the reform theory of action at work in the Denver Public Schools. In particular, the regression analysis combining the leadership variables together with defined autonomy as measured by managed instruction and autonomy over people produced, as a whole model, the strongest and statistically significant result. To the degree that any of this variance can be explained by the concept of defined autonomy (and its proportion would likely be very small compared to the other variables), this may suggest that contrary to what many policymakers in the field believe, it may not be autonomy itself that makes a difference, but rather defined autonomy that does. Further, the relative strength of the managed instruction variable suggests that this factor may make more of a difference than autonomy. Either way, it is clear that neither autonomy nor defined autonomy make a difference without leadership. More research is needed to affirm these results and to explore the various relationships between types of autonomy (i.e., areas where districts or charter management organizations promote a loose relationship with their portfolio of schools) and types of limitations to that autonomy (i.e., areas where districts or charter management organizations maintain a tight relationship with their portfolio of schools).

Additional research about the specific effects of different types of autonomies is also needed, especially autonomy over people. As efforts to improve schools' and districts human capital management are now underway in Denver and many other districts nationally, opportunities now exist to obtain a more contextualized understanding of the effective use of autonomy over staffing functions. Including factors associated with teacher effectiveness as another component of this study would improve such a study tremendously. Also including measures that help garner a better understanding of the professional development or training that school leaders may have had to prepare them to take full advantage of autonomy over people as well as the extent to which the approaches they do employ are effective within their school.

More research that examines the role and effects of adaptive leadership in school settings is also needed. In this study, adaptive leadership did not even come close to having the level of effect that I had surmised at the outset, and this was disappointing. That said, the small sample size likely the result of the overly lengthy and complex survey instrument used in the study along with the nature of self-reported results might have contributed to this outcome. Replication of this study with a shorter and less complex principal survey while possibly including additional methods to triangulate the findings with a larger sample size might strengthen potential results for adaptive leadership.

Research that more fully examines the concept of managed instruction seems warranted by the results of this study. Managed instruction, more than any of the other autonomy variables examined, consistently presented the strongest effects in each analysis. It may be that this approach accomplishes what one of the key informants discussed during the interviews, achievement of a “high reliability organization” around curriculum. As such, Denver Public Schools and other urban districts may want to examine this strategy more closely to see if these results obtain in a study with a larger sample size. If they do, the district should consider maintaining or possibly expanding upon this strategy in the future. Doing so may prove to be unpopular, however, especially in a district like Denver, which has become better known for its promotion of and focus on school choice and autonomy. School leaders looking for even more flexibility, may not welcome expansion of a managed instruction strategy. Finally, any district that does choose to invest in managed instruction as a key strategy should only do so if they truly have the resources and staying power to see it through, with a high degree of quality. As one of the key informants cynically believed, most districts “fool themselves” into thinking that truly having a quality district-wide approach to curriculum is possible. Without this level of confidence in a district’s systems, especially curriculum, schools may, in fact, be better off if districts (or charter management organizations) get out of the way. Development of good measures to assess the quality of implementation for managed instruction would help districts to determine its level of confidence for continuing this approach.

Finally, research that looks at additional contextual factors that may affect either leadership or school autonomy would be helpful. Such factors should include analysis of school leaders’ motivations to pursue or avoid autonomies, levels of acceptance of constraints placed on autonomy, a deeper look at the role and effects of school type on the outcomes, as well as the role that the developmental phase of a school. Other possible variables worthy of analysis include performance evaluation results and possibly, incentives aligned with school growth gains. An examination of the primary variables using other possible school improvement measures could also prove interesting.

Summary

The strongest result in this study emerged through a hierarchical multiple regression that found a very small, although statistically significant effect on school growth gains for the combination of three control variables with technical and adaptive leadership together with defined autonomy. In this analysis, defined autonomy was measured by combining managed instruction with autonomy over people. While this result somewhat supports the underlying research theory and the reform theory of action implemented by the Denver Public Schools at the time, a closer examination reveals that the variance in school growth gains is mostly explained by leadership and managed instruction and not autonomy over people.

Surprisingly, autonomy over people had a negative effect on school growth gains in each of the analyses conducted. This result was puzzling given the district's explicit emphasis on increasing autonomy over people (along with autonomy over time and money) as a key reform strategy. A lack of preparation in human capital management and poor use of autonomy over people by school leaders may explain this. Another factor may be the lack of reliable measures available to assess teacher effectiveness and the quality of a principal's human capital management decisions. If such measures had been available, school leaders in the sample studied, may have been able to make more informed and strategic decisions pertaining to human capital management, and thus, producing, potentially, a positive effect for this variable.

More research is needed to examine this possibility. Further, if Denver Public Schools or other urban districts plan to continue expanding school leaders' autonomy over people, building leaders' capacity to make effective human capital management decisions at the school level is paramount.

The overall purpose of this dissertation was to examine the individual and combined effects of two forms of school leadership, technical and adaptive together with defined autonomy on school growth gains. A school leader survey was developed incorporating established measures for technical leadership, adaptive leadership, and levels of autonomy in different academic and operational areas. Additional scales were created to measure defined autonomy by combining different types of autonomy with the construct of managed instruction. Throughout the study, five scenarios for measuring defined autonomy were used and results compared. The five scenarios each included managed instruction together with one of five different forms of autonomy including autonomy over general operations (Scenario 1), autonomy over people, time, and money (combined) (Scenario 2), autonomy over people (Scenario 3), autonomy over time (Scenario 4), and autonomy over money (Scenario 5).

Additional results from the regression analyses offered some insights into the strength of different approaches to measuring both autonomy and defined autonomy. In general, while none but the above-described results for defined autonomy scenario 3 were statistically significant, the effects for autonomies over operational areas were stronger than the effects for autonomy over curriculum. This finding also supported the underlying research theory. Further, the results across the different approaches to measuring defined autonomy that focused solely on operational areas revealed that autonomies focused on the specific areas of people, time, and money (combined) produced stronger results than autonomy that combined these with other operational areas. A closer look at each type of autonomy revealed that autonomy over people consistently produced the strongest result, although negative.

An interesting finding was also detected for autonomy over time and money. When managed instruction was present in the analysis, autonomy over time seemed to matter more than autonomy over money. When managed instruction was not included, autonomy over money seemed to matter more. This finding suggests that specific autonomies may be associated with specific contextual factors within a district or charter management organization. In this case, where the context involved an effort to promote instructional coherence through managed instruction, it is possible that autonomy over resources matters somewhat less because schools in these contexts may rely on curricular resources provided by the district. Concomitantly, schools that operate more independently in the area of curriculum, may need to use more of its resources to support curriculum development, instructional support, and the like, and therefore, having autonomy over the use of resources may matter more in such contexts. Either way, although the differences in this study are rather small, this type of pattern may be worthy of future investigation.

All together, the results indicate a need for further research to examine the role of the key variables of leadership and autonomy, including defined autonomy, within different district and/or charter management organizational contexts. Specifically, a better understanding of the effects of each variable, individually, and combined within the context of districts or charter management organizations that maintain a tight relationship with their schools in the area of curriculum while promoting a loose relationship with schools in operational areas seems warranted. While it is challenging to understand the conditions required to get it right, including the level and type of leadership capacity needed, striking the right balance between this tight-loose relationship between a district and its schools may hold a key for district improvement of not just one school, but many schools, at scale. Further research that examines these factors in a broader context, with a larger sample size, and possibly more precise and triangulated measures are recommended may to obtain an accurate assessment of their potential impact on school growth gains.

Although it did not contribute as much knowledge to understanding turnaround capacity through adaptive leadership as anticipated, the study affirms what many have come to realize, that school leadership matters. The study did, however, offer some new insights on and possible measures for the concept of defined autonomy. In addition, the study highlights the importance of better understanding a district's context in terms of the degree to which it may be tighter on curriculum and looser on operations, with respect to its relationship with schools. This contribution has numerous implications for research and for the field.

As education and policy leaders' interests in expanding school autonomy increases, so does the need for a more nuanced and contextualized understanding of autonomy and especially, defined autonomy. The continued demand and growth of charter schools, especially in urban school districts along with expansion of state laws and other reforms promoting increased autonomies and flexibilities for school principals provides evidence that such an interest is likely to rise, over time. It is my hope that this study, although fully supporting the research hypothesis or yielding the hoped for results, provides those with interests in school leadership and autonomy some insights and direction for future research and reform, especially within urban school districts.

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APPENDICES

Appendix A: Technical Leadership Sub-Scales

The technical leadership scale asked principals, in a series of three questions, *to rate how they think their current staff and faculty* would rate their effectiveness at implementing various standards of practice in their current school on a scale of 1 through 5, where 1 = my practice needs considerable development; 2 = my practice needs some development; 3 = my practice is competent; 4 = my practice is effective; and 5 = my practice is very effective.

The statements of principal practice were developed based on the 2008 Educational Leadership Policy Standards (2008 ISLLC Standards) developed by the Council of Chief State School Officers. These 33 statements of practice measure six concepts outlined in the 2008 ISLLC standards: (a) Vision, Mission and Goals; (b) Teaching and Learning; (c) Managing Organizational Systems; (d) Family and Community Engagement; (e) Ethics and Integrity; and (f) The Education System. Appendix A provides an overview of the statements included and the concepts of which they are each intended to measure. Below is a list of the items corresponding to each subscale.

A) ISLLC Concept: Vision/Mission/Goals

		Survey Question
1.	I set high expectations for all in my school	9i
2.	I develop a shared commitment to implement the vision, mission, and goals of my school	9e
3.	I have successfully gained the genuine commitment of all stakeholders in my school	8c
4.	I focus on continuous improvement toward achieving the goals of my school	9a
5.	I collect and use data to assess organizational effectiveness	8g
6.	I evaluate progress toward meeting goals	10h

B) ISLLC Concept: Teaching and Learning

		Survey Question
1.	I have established a strong professional culture within the school	10e
2.	I promote a rigorous approach to curriculum and instruction	8h
3.	I continuously monitor teaching and learning in my school	10d
4.	I support the continuous improvement of instructional practice in my school	10a
5.	I use performance measures to monitor student progress and identify strategies for improvement	10g
6.	I create a personalized learning environment for students in my school	9f
7.	I develop the instructional capacity of my staff	9b
8.	I develop the leadership capacity of my staff	10f
9.	I maximize time spent on quality instruction in my school	8i
10.	I promote the use of appropriate technologies to support teaching and learning	9c

C) ISLLC Concept: Managing Organizational Systems

		Survey Question
1.	I manage the organizational operations of my school	8e
2.	I ensure a safe environment in my school	10b
3.	I distribute leadership responsibilities in my school	9j
4.	I hire highly qualified staff to work in my school	9d
5.	I align resources to support teaching and learning in my school	8j

D) ISLLC Concept: Family and Community Engagement

	Survey Question
1. I actively collaborate with families and parents	9k
2. I mobilize community resources to improve teaching and learning	10c
3. I analyze data pertinent to the educational environment for my school	8d
4. I promote appreciation for the community’s diversity in my school	9h

E) ISLLC Concept: Ethics and Integrity

	Survey Question
1. I demonstrate appropriate ethical behavior expected by the profession	8a
2. I maintain high standards for my own professional learning	8f
3. I model principles of reflective practice	10j
4. I ensure that individual student needs inform all aspect of schooling	10i

F) ISLLC Concept: The Education System

	Survey Question
1. I help to improve the broader context of the education system	10k
2. I engage in policy making related to my school	8k
3. I act to influence district decisions affecting student learning	8b
4. I analyze emerging trends in order to adapt leadership strategies	9g

Appendix B: Adaptive Leadership Sub-Scales

The adaptive leadership scale uses the Adaptive Leadership Profile (ALP) developed by Ron Heifetz and Marty Linsky of Cambridge Leadership Associates. The ALP was designed to assess Adaptive Leadership capacities in individuals. According to their website (see http://www.cambridge-leadership.com/index.php/services/diagnostics/) , "The Adaptive Leadership Profile (ALP) is the result of years of development by leadership experts and statisticians… The Profile is a powerful learning tool and often acts as a useful starting point for increasing your ability to adapt and be effective." The authors of the Adaptive Leadership Profile have granted me permission to use this measure in my dissertation research. Email documentation of this permission is available upon request.

The profile contains a total of 61 items designed to measure 12 adaptive leadership competencies, including: (a) Acting Politically; (b) Distinguishing Technical from Adaptive Challenges; (c) Knowing Your Purpose; (d) Knowing Your Defaults; (e) Knowing Your Role in the System; (f) Orchestrating Conflict; (g) Owning Your Own Piece of the Mess; (h) Staying in the Game-Staying Alive; (i) Thinking Politically; (j) Thinking Systemically; (k) Using Interpretations Experimentally; and (l) Willingness to Exceed Your Authority. An overview of the items within each subscale is listed below.

A) Act Politically

11k	When leading a change process, I spend a lot of time meeting with the most vocal resisters.	Act Politically
12f	I understand that the behavior of my boss is feedback about reaction from the rest of the organization rather than the boss' personal view.	Act Politically
14f	When firing someone, I keep the conversation as direct and brief as possible.	Act Politically
15a	I am willing to compromise my vision to incorporate perspectives that are hostile to my own.	Act Politically
15g	When tackling difficult challenges, I expect that I might disappoint some people I care about.	Act Politically
16e	I find myself being the only person voicing a point of view on a particular issue in a group.	Act Politically

B) Distinguish Technical from Adaptive Challenges

11c	I identify when an organization challenge will require learning new behaviors.	Distinguish Technical from Adaptive Challenges
11i	I identify when using external expertise will not address the problem at hand.	Distinguish Technical from Adaptive Challenges
12j	I see when a proposed action will only provide a temporary solution to an organization challenge.	Distinguish Technical from Adaptive Challenges
13h	When addressing a challenge, I recognize when loss for individuals and groups will result.	Distinguish Technical from Adaptive Challenges
15i	I recognize when it is more important to have the right people and interests engaged in addressing challenges rather than in implementing my own preferred outcome.	Distinguish Technical from Adaptive Challenges

C) Know Your Purpose

11d	I can articulate a personal definition of what is important in life.	Know Your Purpose
12a	I recognize how day-to-day decisions fit into a bigger picture.	Know Your Purpose

13b	I can articulate what would be worth leaving the organization over.	Know Your Purpose
14g	I distinguish between making short term progress and preserving enduring important purposes when they conflict.	Know Your Purpose
15c	When confronted with compelling, competing personal values, I choose which one takes priority.	Know Your Purpose

D) Knowing Your Defaults

14c	I recognize when I am being used by the group or organization to avoid difficult issues.	Knowing Your Defaults
14d	I recognize when my own behavioral change will be required if the challenge is to be addressed effectively.	Knowing Your Defaults
14e	I act outside of my own comfortable ways of doing things when those preferences are interfering with progress.	Knowing Your Defaults
14h	I take attacks personally.	Knowing Your Defaults

E) Knowing Your Role in the System

11g	I know when my formal role gets in the way of making progress.	Knowing Your Role in the System
12c	I can name what is expected of me that is beyond my formal role.	Knowing Your Role in the System
12h	My capacity to do my job well comes mostly from my expertise.	Knowing Your Role in the System
13e	I know what stereotypes I represent for my colleagues.	Knowing Your Role in the System
16g	I seek to treat my professional colleagues as personal friends.	Knowing Your Role in the System

F) Orchestrating Conflict

11f	Before or at the beginning of meetings, I create explicit ground rules and norms that encourage participation and engagement, while allowing for vigorous dissent.	Orchestrate Conflict
12g	I get the group to resolve their difficult issues themselves, even if I have a preferred outcome.	Orchestrate Conflict
13j	I surface unspoken conflict and disagreement even when it is disruptive.	Orchestrate Conflict
15b	When leading the team, if members distract the group's work, I stop the work and comment on their impact.	Orchestrate Conflict
15h	I am willing to risk having difficult conversations about work issues.	Orchestrate Conflict
16f	I nurture conflict as a critical resource for dealing with difficult issues.	Orchestrate Conflict

G) Owning Your Piece of the Mess

11j	When addressing a problem, I begin by naming my own contribution to it.	Own Your Piece of the Mess
13a	I acknowledge the unintended negative consequences of my own actions.	Own Your Piece of the Mess
15d	I apologize in public after having made a mistake.	Own Your Piece of the Mess
16a	I am willing to be vulnerable in front of co-workers in order to advance the purposes of the group.	Own Your Piece of the Mess
16i	I say "I don't know" when that is the case.	Own Your Piece of the Mess

H) Staying in the Game-Staying Alive

13d	I routinely schedule time for personal reflection.	Stay in the Game - Staying Alive
14a	I avoid working beyond physical limits and endurance.	Stay in the Game - Staying Alive
16b	I treat my own health as a critical resource.	Stay in the Game - Staying Alive
16j	I manage my relationship between work and my personal life well.	Stay in the Game - Staying Alive

I) Thinking Politically

11e	I put myself in others' shoes to understand what they see at risk and what could be gained on an issue.	Think Politically
12b	I recognize what particular alliances will be required to achieve a purpose.	Think Politically
13c	I identify which stakeholders need to be engaged to advance an issue.	Think Politically
13i	I seek out the unspoken interests and loyalties of each stakeholder group.	Think Politically
14i	I identify factions relevant to the issue.	Think Politically

J) Thinking Systemically

11a	I recognize the effect of the organization's processes on goal achievement.	Think Systemically
12d	I recognize the impact of the organization's environment on individuals' performance.	Think Systemically
13f	I recognize when there is a gap between espoused values and patterns of behavior in the organization.	Think Systemically
16c	I recognize the effect of the organization's culture on goal achievement.	Think Systemically

K) Using Interpretations Experimentally

11b	I challenge colleagues to name the interests that underlie their behaviors rather than take their explanations at face value.	Use Interpretations Experimentally
12e	When the group is wrestling with a difficult problem, I surface disagreements rather than agreements.	Use Interpretations Experimentally
13g	When members of my team are in conflict, I look to the organization's dynamics rather than focus on the personalities involved.	Use Interpretations Experimentally
14j	I raise group dynamics issues whenever they are impacting the effectiveness of the group.	Use Interpretations Experimentally
15f	When the group is working on a tough issue, I keep the conversation going rather than accepting the first solution that makes sense.	Use Interpretations Experimentally
16d	I act decisively on one interpretation of a problem and still remain open to acting on alternatives.	Use Interpretations Experimentally

L) Willingness to Exceed Your Authority

11h	I take the risk and accept the consequences of exceeding authority to make a decision that will be good for the organization.	Willing to Exceed Your Authority
12i	I risk experiencing the disapproval of people in authority to do what is in the best interest of the group.	Willing to Exceed Your Authority
14b	I move off of long held positions when a change of direction is necessary.	Willing to Exceed Your Authority
15e	I treat resistance as evidence that a hard problem is being addressed.	Willing to Exceed Your Authority
15j	I stay open to alternative actions, even when I am clear about what to do.	Willing to Exceed Your Authority
16h	I act to change a situation when the organization's actions do not match its espoused values.	Willing to Exceed Your Authority

Appendix C: Defined Autonomy Scales

The first autonomy scale included asked participants questions pertaining to the level of autonomy they have to make decisions on behalf of their school. The question included 39 descriptions of different decision making factors (39 items) designed to measure 10 different areas of decision making that principals face, including: 1) Staffing; 2) Scheduling; 3) Budgeting: 4) Curriculum; 5) Professional Development; 6) School Improvement; 7) Enrollment; 8) Discipline; 9) Operations; and 10) District and Policy Relations. Table I, below, provides more detailed definitions of each of these concepts.

Table I: Definition of Decision-Making Concepts to Measure Degree of School Autonomy

Staffing: activities related to hiring, firing, and assignment of staff within the school
Schedule: activities related to use of time within the school
Budget: activities related to allocation and distribution of resources within the school
Curriculum: activities related to curriculum, instruction, and assessment
Professional development: activities related to helping teachers learn to improve
School improvement: activities related to improving the performance of the whole school, including school culture
Enrollment: Activities related to marketing the school
Discipline: Activities related to student behavior
Operations: Activities related to non-instructional management of the building
District and Policy Relations: Activities related to having a voice in policy and district decision-making

The survey was adapted from a survey developed by Adamowski, Therriault, and Cavanna (2007). Items included in the scale were taken directly from this survey. Additional items were included based on the results of my key informant interviews (conducted in Fall 2009) which identified several areas of autonomy that principals face. For each factor listed, participants are asked to indicate both the current level of autonomy they have and the level of importance they place on having autonomy in this area. This survey also included also a set of questions regarding the possible factors that may constrain the autonomy that principals have. All of these items were adapted from the Adamowski et al. (2007) survey as well. The purpose of these combined sets of questions related to school autonomy is to measure principals' perceptions about the level of autonomy and flexibility they have when making key decisions about their school.

The Yellow-highlighted items are taken directly from the survey used in the "Autonomy Gap" study (Adamowski, Therriault, and Cavanna, 2007, http://www.edexcellence.net/detail/news.cfm?news_id=368). All other items are proposed by me, based on the research and the key informant interviews.

1) Staffing

Question on Survey	*Decision-Making/Autonomy Factor*	*Cluster/Concept* (Adamowski et al., 2007); (Maslowski et al., 2007);

		(Coalition of Essential Schools, 2005b), (Connelly, 2009; Conrad, 2010a)
17a	*1.* Assign/reassign teachers and support staff?	*Staffing*
17b	*2.* Transfer unsuitable teachers or support staff?	*Staffing*
17c	*3.* Discharge unsuitable teachers or support staff?	*Staffing*
17d	*4.* Assign non-instructional duties to teachers and support staff?	*Staffing*
17e	*5.* Hire teachers and support staff?	*Staffing*
17f	*6.* Determine teacher pay and/or bonuses on a case by case basis?	*Staffing*
17g	*7.* Determine teacher load (how many students per teacher)?	*Staffing*
17h	*8.* Evaluate teachers and other staff for effectiveness?	*Staffing*

2) Schedule

Question on Survey	*Decision-Making/Autonomy Factor*	*Cluster/Concept* (Adamowski et al., 2007) (Coalition of Essential Schools, 2005b); (Conrad, 2010a)
17i	*9.* Determine teacher and student schedules?	*Schedule*
17j	*10.* Control key features of the school calendar?	*Schedule*
17k	*11.* Allocate time for instruction?	*Schedule*
17l	*12.* Determine how much time you spend on instructional vs. operational issues?	*Schedule*
17m	*13.* Determine the amount of common planning time that teachers have?	*Schedule*
18a	*14.* Determine the length of the school day?	*Schedule*
18b	*15.* Determine the length of the school year?	*Schedule*

3) Budget

Question on Survey	*Decision-Making/Autonomy Factor*	*Cluster/Concept* (Adamowski et al., 2007) (Connelly, 2009), (Marguerite Roza, Tricia David, & Kacey Guin, 2007); (Conrad, 2010a)
18c	*16.* Determine the number and type of faculty and staff positions within your budget?	*Budget*
18d	*17.* Allocate resources (e.g., materials, textbooks, maintenance, equipment, etc.)?	*Budget*
18e	*18.* Engage in private fund-raising for your school?	*Budget*
18f	*19.* Allocate additional resources (above what has traditionally been the school's PPOR) that have traditionally controlled by the district?	*Budget*
18g	20. Choose whether or not to purchase district or charter management organization services	*Budget*

4) Curriculum

Question on Survey	*Decision-Making/Autonomy Factor*	*Cluster/Concept* (Adamowski et al., 2007) (Coalition of Essential Schools,

		2005b); (Connelly, 2009); (Conrad, 2010a, 2010b)
18h	*21.* Have control over curriculum pacing and sequencing decisions?	*Curriculum*
18i	*22.* Have some control over methods and materials?	*Curriculum*
18j	*23.* Establish school-based assessment practices?	*Curriculum*

5) Professional Development

Question on Survey	*Decision-Making/Autonomy Factor*	*Cluster/Concept* (Conrad, 2010a)
18k	*24.* Allocate time for professional development?	*Professional Development*
18l	*25.* Determine the content of professional development?	*Professional Development* (Coalition of Essential Schools, 2005b)
18m	*26.* Determine delivery method for professional development (e.g., professional learning communities, workshops, etc.)?	*Professional Development*
19a	27. Determine instructional support for teachers (e.g., coaching, etc.)?	*Professional Development*

6) School Improvement

Question on Survey	*Decision-Making/Autonomy Factor*	*Cluster/Concept*
19b	*28.* Determine which extra-curricular activities your school offers?	*School Improvement* (Adamowski et al., 2007)
19c	*29.* Make program adoption decisions?	*School Improvement* (Adamowski et al., 2007)
19d	*30.* Set parental involvement requirements for your school?	*School Improvement* (Adamowski et al., 2007)
19e	*31.* Determine strategy for school improvement?	*School Improvement (Conrad, 2010a)*
19f	32. Make school improvement decisions on the basis of your school's data?	*School Improvement* (Priscilla Wohlstetter, Datnow, & Park, 2008)

7) Enrollment

Question on Survey	*Decision-Making/Autonomy Factor*	*Cluster/Concept*
19g	*33.* Market your school to families and students?	*Enrollment*

8) Discipline

Question on Survey	*Decision-Making/Autonomy Factor*	*Cluster/Concept*
19h	*34.* Determine student discipline policies and procedures?	*Discipline*
19i	*35.* Control student dress choices?	*Discipline*

9) Operational Services

Question	*Decision-Making/Autonomy Factor*	*Cluster/Concept*

on Survey		
19j	*36.* Oversee the school facility (e.g., having a key to the building, supervising the custodian, etc.)?	*Operations*
19k	*37.* Control more of the operations (e.g., food services, facilities, etc.)?	*Operations*

10) District and Policy Relations

Question on Survey	*Decision-Making/Autonomy Factor*	*Cluster/Concept*
19l	*38.* Influence district policymaking?	*District and Policy Relations*
19m	*39.* Influence district curriculum and instructional practices and decisions?	*District and Policy Relations*

Managed Instruction Scale

This section attempts to measure principals’ views regarding the presence, quality, and value of a managed instruction approach to teaching and learning in the Denver Public Schools and/or certain charter schools. The set of questions was derived from background research conducted on the related concepts of managed instruction (Adamowski et al., 2007) and defined autonomy (Marzano, Waters, & McNulty, 2005). The question (Question 23) contains seven items which represent features of a district that is implementing a managed instruction approach. The purpose of this question is to determine if school autonomy, as a factor, is qualified in the area of teaching and learning. In other words, my study seeks to compare technical and adaptive leadership with perceived level of autonomy, but allows for the notion of “defined autonomy” (that is, autonomy only in certain areas) to be the variable (as opposed to pure autonomy in all areas of decision making). As such, my theory incorporates an important role for the centralized functions of a school district or charter management organization.

Appendix D: Invitation to Complete Survey (Email)

May 4, 2011

Dear PRINCIPAL,

I hope this letter finds you enjoying a very happy and healthy spring season! I am contacting you to request your participation in an important research study focused on the role of principals in urban school improvement. You have been invited because you are currently a school leader in Denver and your participation would make a valuable contribution to the field.

This study is being conducted for my doctoral dissertation. Although I am currently living in the Boston area and working for the Boston Public Schools, I am also a doctoral candidate in the Education Leadership and Innovation (EDLI) program at the University of Colorado at Denver (UCD). I am in the final stages of completing my dissertation and I would deeply appreciate your participation in this survey.

Up to 168 education leaders are expected to participate in the study. If you join the study, you will contribute to the field's understanding of urban principal preparation and practice, improving district support for urban principals, and the role of principals in turning around low performing schools. The study comprises interviews with district leaders, a brief questionnaire for instructional superintendents, and a survey of all school principals in the Denver Public Schools, including charter school leaders.

I am requesting **approximately 35-45 minutes of your time** to complete an **online survey (which will be emailed to you in a separate email)**. The survey asks urban school principals questions pertaining to their knowledge, skills, and background experience as school leaders within an urban district. ***Your insights on these issues are greatly appreciated and will make a valuable contribution to the field***.

Your participation is completely voluntary. I understand how valuable your time is, however. As an added incentive, if you choose to participate, **you will receive a Starbucks gift card** in the mail. If you opt to participate, you will also receive a summary of the findings of the study.

There are very few risks and discomforts associated with your participation. Although I acknowledge that my former role on the DPS School Board (from 2005-2009, terminating on November 30, 2009) might present a concern, **I pledge to take the following steps to mitigate any such discomfort on your part**:

- All responses will be kept confidential and no individual responses will be reported. Results will only be reported by groups based on patterns and themes that arise in the responses.

- Data will not be discussed nor shared with any member of the DPS school board, administration, or any other individual or entity beyond myself and members of my dissertation committee. Final results of the study will be shared publicly through presentations and various presentations with the above-mentioned audiences. At such time, the confidentiality of individual responses will not be violated.

Part of the study will also include an analysis of the School Performance Framework (SPF) results for all DPS schools. To answer all of the research questions in the study, it will be necessary for me to keep track of the specific school in which you are currently a principal, during the initial analysis phase of the study. This will allow me to accurately analyze patterns of school SPF results relative to various principal preparation, professional development, practices, and behaviors. To mitigate any discomfort you may feel by participating in the study, I pledge to:

- Make sure that your name and your school will be kept private whenever any information related to the study or its findings is presented.

- Make sure that no responses by any individual will ever be linked to any specific school in published or publicly presented findings.

Thank you for considering the prospect of participating in the study. **Within the next day or so, you will receive an email invitation from my personal email address, jillconrad2010@gmail.com inviting you to participate in the study. A direct link to the online survey will be provided.** To complete the survey, all you have to do is click on that link and begin answering the questions. An introductory section explaining the details of the study is also included. You will be asked to review and approve these "Informed Consent" sections prior to completing the survey.

You will have **a total of three weeks to complete the study**. You may answer the questions all in one sitting (this is estimated to take approximately 35 to 45 minutes of your time), or in several sessions—so long as the survey is completed within three weeks from the date of the initial email.

If within a week of receiving the online survey invitation, you have not responded. I will follow up with a phone call and an email to encourage your participation and answer any questions you may have.

I hope you will consider participating in this important study. You may contact me at any time with any questions or concerns that you might have. Feel free to call me at 720-289-2886 or email me at jillconrad2010@gmail.com. You may also call the UCD Human Subject Research Committee (HSRC) at 303-315-2732.

Thank you so much for your time, consideration, and participation in the study. Thank you, also, for your hard work and dedication on behalf of DPS' students and families. Having studied, in depth, the role of urban school principals in preparation for this study, I deeply respect your work and admire your courage and expertise a great deal.

I cannot thank you enough for all that you do every day and for participating in my dissertation research. I look forward to sharing the results with you sometime in winter 2012.

Sincerely,

Jill K Conrad

Doctoral Candidate
EDLI Program, School of Education and Human Development, UCD

cc: Dr. Rodney Muth, Chair, Dissertation Committee
Dr. Alan Davis, Dissertation Committee Member
Dr. Paul Teske, Dissertation Committee Member
Dr. Robert Palaich, Dissertation Committee Member

Appendix E: Key Informant Interviews (Invitation and Protocol)

January 13, 2010

Dear KEY INFORMANT,

I hope email letter finds you enjoying a very happy and healthy 2010!

I am contacting you to request your participation in an important research study focused on the role of principals in urban school improvement. You have been included because you are currently an expert in urban school leadership, and in particular, the role of school autonomy in school improvement. This study is being conducted for my doctoral dissertation. I am currently a doctoral candidate in the Education Leadership and Innovation (EDLI) program at the University of Colorado at Denver (UCD).

Up to 168 people are expected to participate in the study. If you join the study, you will make a valuable contribution to the understanding of the development and application of knowledge and skills in urban schools. The study comprises interviews with experts and district leaders, a brief questionnaire for instructional superintendents, and a survey of all school principals in the Denver Public Schools.

I am requesting **approximately 45 minutes of your time** to be interviewed, either over the phone or in person. The interview will ask you questions pertaining to the role of school autonomy in principal leadership and school improvement.

Results of the interview will be used to construct a survey scale to measure principals' perceptions about the degree of autonomy in decision-making they have vis-à-vis the urban school district in which they work, within various operational and academic domains. ***Your insights on these issues will make a valuable contribution to the field***.

Your participation is completely voluntary. I understand how valuable your time is, however. As an added incentive, if you choose to participate, **you will receive a Starbucks gift card.** If you opt to participate, you will also receive a summary of the findings of the study.

There are very few risks and discomforts associated with your participation. Although I acknowledge that my former role on the DPS School Board (which terminated on November 30, 2009) might present a concern, **I pledge to take the following steps to mitigate any such discomfort on your part**:

- All responses will be kept confidential and no individual responses will be reported. Results will only be reported by groups based on patterns and themes that arise in the responses.
- Data will not be discussed nor shared with any member of the DPS school board, administration, or any other individual or entity beyond myself and members of my dissertation committee. Final results of the study will be shared publicly through presentations and various presentations with the above-mentioned audiences. At such time, the confidentiality of individual responses will not be violated.

Thank you for considering the prospect of participating in the study. I am attaching a consent form for your review. Please read the form and sign it prior to the interview. You may either mail it to me at the address below or fax it to me at 303-362-7716.

If within a week of receiving this email, I have not heard from you, I will follow up with a phone call and another email to encourage your participation and answer any questions you may have.

I hope you will consider participating in this important study. You may contact me at any time with any questions or concerns that you might have. Feel free to call me at 720-289-2886 or email me at jillkconrad@comcast.net. You may also call the UCD Human Subject Research Committee (HSRC) at 303-315-2732.

Thank you so much for your time, consideration, and participation in the study. I cannot thank you enough for all that you do every day and for participating in my dissertation research. I look forward to sharing the results with you sometime in late spring or summer 2010.

Sincerely,

Jill K Conrad

Doctoral Candidate
EDLI Program, School of Education and Human Development, UCD

cc: Dr. Rodney Muth, Chair, Dissertation Committee
Dr. Alan Davis, Dissertation Committee Member
Dr. Paul Teske, Dissertation Committee Member
Dr. Robert Palaich, Dissertation Committee Member

Key Informant Interview Questions

Estimated Interview Time: 45 minutes

Introduction and Purpose of the Interview

The purpose of this interview is to identify the range of perspectives on the role of school autonomy in turning around low-performing schools in DPS and more broadly. Responses will be used to help construct survey items to measure school principals' perceptions about school autonomy.

Interview Questions

On School Leadership

1. To what extent do DPS principals meet or exceed DPS standards for high quality school leadership?

    a. To what extent do DPS principals have the kind of leadership capacity necessary to turn around low performing schools?
    b. In what ways would you like to see them improve?

School Autonomy

2. How would you define school autonomy?

3. What role does school autonomy play in turning around low-performing schools in DPS/*an urban district*?

4. What steps is DPS taking/*should an urban district* take to utilize school autonomy as a strategy for turning around low performing schools?

5. Should DPS/*urban school districts* give autonomy to all schools or just some schools?
    a. What factors or conditions should differentiate giving some schools autonomy and not others?
        i. Would you differentiate based on the school's current level of performance?
        ii. Would you differentiate based on the school's leadership capacity?
        iii. Would you differentiate based on the school's requests for autonomy?
        iv. Other relevant factors?

6. Should DPS/*urban school districts* give autonomy to schools in certain areas (e.g., operational, instructional, etc.) and not others?
    a. If so, in what areas should urban schools should have autonomy?
    b. In what areas should urban schools should not have autonomy?
    c. Which factors would differentiate when you would give a school autonomy in certain areas and not others?

7. To what degree has DPS actually increased the autonomy of its schools?
    a. How many schools currently have formal autonomy agreements?
        i. To what extent has the increased autonomy actually been given to those schools in practice?
        ii. Have they done anything differently since receiving autonomy? If so, what?
    b. What level of autonomy do the other schools have?

        i. To what extent has the increased autonomy actually been given to those schools in practice?
        ii. Have they done anything differently since receiving autonomy? If so, what?

8. How do principals perceive the district's efforts related to school autonomy? *(NOTE: for the below prompts, differentiate between formal autonomy schools and all schools)*
    a. What do they see as the benefits of school autonomy?
        i. Formal v. all schools?
    b. What do they see as the challenges?
        i. Formal v. all schools?
    c. To what degree do DPS principals feel that they currently have the authority and flexibility to do what it takes to improve their school?
        i. Formal v. all schools?
    d. To what degree do principals feel that the district has sufficiently reduced barriers to their flexibility as a school leader?
        i. Formal v. all schools?

9. How has school autonomy affected principals' leadership development, if at all?
    a. In formal autonomy schools?
    b. In all schools?

10. To what degree do DPS principals currently have the capacity to utilize school autonomy to achieve results in their schools?
    a. In formal autonomy schools?
    b. In all schools?

11. What would you do to improve efforts to increase school autonomy (if considered important) in the future?
    a. Has anything been planned that has not yet been implemented?

Continuum to "Define" Autonomy

12. Please look at the following "continuum of autonomy." On the left end, the district would maintain a high degree of centralized control over decision-making and the schools would have zero autonomy (Note: Zero autonomy does not necessarily mean that schools would not have input into the decision but that the authority to make the decision is solely at the district-level). On the right end, the district would completely decentralize decision-making to the school level, such

that the school has complete autonomy (Note: complete autonomy does not necessarily mean that the district would not have input into decisions, but that the authority to make the decision is solely at the school-level).

Tight Control
Zero Autonomy ⟷ Loose Control
Complete Autonomy

On a scale of 1-5where 1 represents “tight” district-level control or “no autonomy” and 5 represents “loose” district-level control or “complete autonomy,” please rate the degree of autonomy that schools should have in the following operational and instructional elements.

Consider the following school conditions as you assign varying degrees of school autonomy. Differentiate your response for each of the school-type scenarios below: A = a high performing school with high leadership capacity; B = a high performing school with low leadership capacity; C = A low performing school with high leadership capacity; D=a low performing school with low leadership capacity; E = a mediocre performing school with mediocre leadership capacity; F = a school request for more autonomy (regardless of performance and/or leadership capacity)

School Element *(NOTE: These elements were identified through DPS experiences, the literature on school autonomy, and recent conversations about Portfolio Management)*	A HIGH PERF/ HIGH LDRSHP	B HIGH PERF/LOW LDRSHP	C LOW PERF/HIGH LDRSHP	D LOW PERF/LOW LDRSHP	E MED PERF/MED LDRSHP	F SCHL REQUEST
a. Budget/finances						
b. Staffing i. Hiring school staff ii. Firing school staff iii. Professional development of staff iv. Compensation						
c. Time i. Length of school day ii. Length of school year iii. School schedule iv. Amount of instructional time relative to other uses of time v. Amount of time spent on professional development						

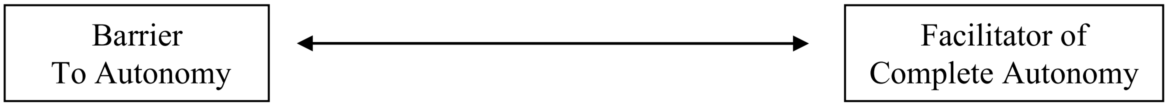
d. Curriculum & Instruction i. Standards ii. Setting high expectations for learning outcomes iii. Curricula and instructional materials iv. Assessments (other than CSAP) v. Instructional strategies used vi. Goals for instruction vii. Planning guides or lesson planning templates viii. Interventions for low performing students ix. Instructional support for teachers (coaching, etc.) x. Professional development for teachers						
i. Might you consider granting schools autonomy in any other area?						

13. Please explain your reasoning for the ratings that you gave above. What informs motivated your assignment of a specific degree of autonomy to:
    a. Schools that are high performing and have a high leadership capacity?
    b. Schools that are high performing and have a low leadership capacity?
    c. Schools that are low performing but have a high leadership capacity?
    d. Schools that are low performing and have a low leadership capacity?

14. To what extent does the district currently have/*urban school districts should have* a district-wide instructional focus (a common set of expectations for instructional practice or what some call "managed instruction")?
    a. To what extent is this instructional focus followed by schools?
        i. Formal v. all schools?
    b. To what extent do schools express desire to operate outside of the district's instructional focus?
    c. Please explain your above responses.

District Role

15. The following scale pertains to the degree to which the district's internal operations (i.e., bureaucracy) has played a role facilitating increased autonomy or served as a barrier to increased autonomy. Of the areas above where you felt schools should have more autonomy, how would you rate the district in its ability to facilitate achieving that autonomy? On a scale of 1-5, where a 5 represents the district positively facilitating autonomy and a 1 represents the district being more of a barrier to it (in spite of its desire to give schools that autonomy), please rate DPS . . . .



    a. Explain how the district has been a barrier in these areas?
    b. Explain how the district has been a facilitator in these areas?

16. How would you describe the district-wide culture for leadership learning/leadership professional development?
    a. Is it a culture of learning, continuous improvement, collaboration, collegiality and/or competition?
    b. How do you think principals would describe it?
    c. To what degree has the district built a sense of trust between the district and school leaders?
        i. Among/across school leaders?
    d. To what degree has the district built a sense of common purpose across the district?

Additional Thoughts/Comments

17. If you wanted to know how a principal views her/his degree of autonomy vis-à-vis the district, what would you look for or ask them?
    a. What indicators would tell you what a principal would do according to her/his perceived autonomy?"

18. What additional thoughts or comments do you have related to the role of school leadership and school autonomy in turning around low performing schools?

Appendix F: Recruitment Email to Pilot and Review the Survey

----Original Message-----
From: Jill Conrad [mailto:jillkconrad@comcast.net]
Sent: Sun 5/23/2010 6:35 PM

Subject: Need help--can you spare @ 45 mins of your time?

Dear Colleagues,

I hope this email finds you all doing very well and enjoying your work and life as summer nears. As most of you know, I have been working in Boston as the Senior Director of Strategic Relations for the Boston Plan for Excellence (BPE, www.bpe.org) since February. In addition, I have continued to plug away at my dissertation at UCD with the hopes of finishing.. someday (maybe even this year.if not, then by spring of next)!!!

Needless to say, it's been a busy winter and spring as I am sure it has for you all as well.

My dissertation is a study of school principals, looking at aspects of their leadership as well as their perceptions on school autonomy, and then comparing those results to their school's achievement growth rate, to see what, if any factors (leadership factors, autonomy factors, other) make a difference in school improvement. The core of the study involves a principal survey, a draft of which has (finally) been finalized. I need to pilot this survey with a set of people who would be willing to "take" the survey and provide feedback to me on:

a) Clarity of questions being asked

b) Overall survey design

c) Ease/convenience of providing answers

d) Anything else you might notice or suggest

The survey incorporates 2 established measures of leadership and includes a section on measuring school autonomy that I developed, based on prior literature and interviews with key leaders in the field and in DPS. It takes about 35-45 mins to complete from beginning to end, all online. I think it will be an interesting study that I hope will contribute some additional insight around the role of leadership and autonomy in school improvement.

I am writing to see if YOU-or someone (preferably a school principal, or someone who is familiar with the work of a school principal) you know (someone who is NOT currently a principal or employee of Denver Public Schools)-might be willing to take 45 mins to test out this survey and provide me with feedback so that I can revise the survey and administer it to Denver principals this fall.

As a bit of incentive, I would be glad to provide you with a gift certificate to Starbucks for your time and effort.

Please let me know if you are willing and able to do this. If you have someone else in mind, let me know that, too. I am hoping to complete the pilot phase by the end of June (about 1 month from now) so that I will have enough time to revise it, submit for re-review to all of the various committees (UCD, DPS, and IRB, etc.), etc.

Once you agree, I will send you an email invitation, with a link to the survey that you can complete all-in-one session or in multiple sessions, depending on your preference.

It goes without saying that I would be most grateful for your assistance with this (and forever in your debt!!)

Please also let me know if you have any questions.

I look forward to hearing from you.

Best,

Jill

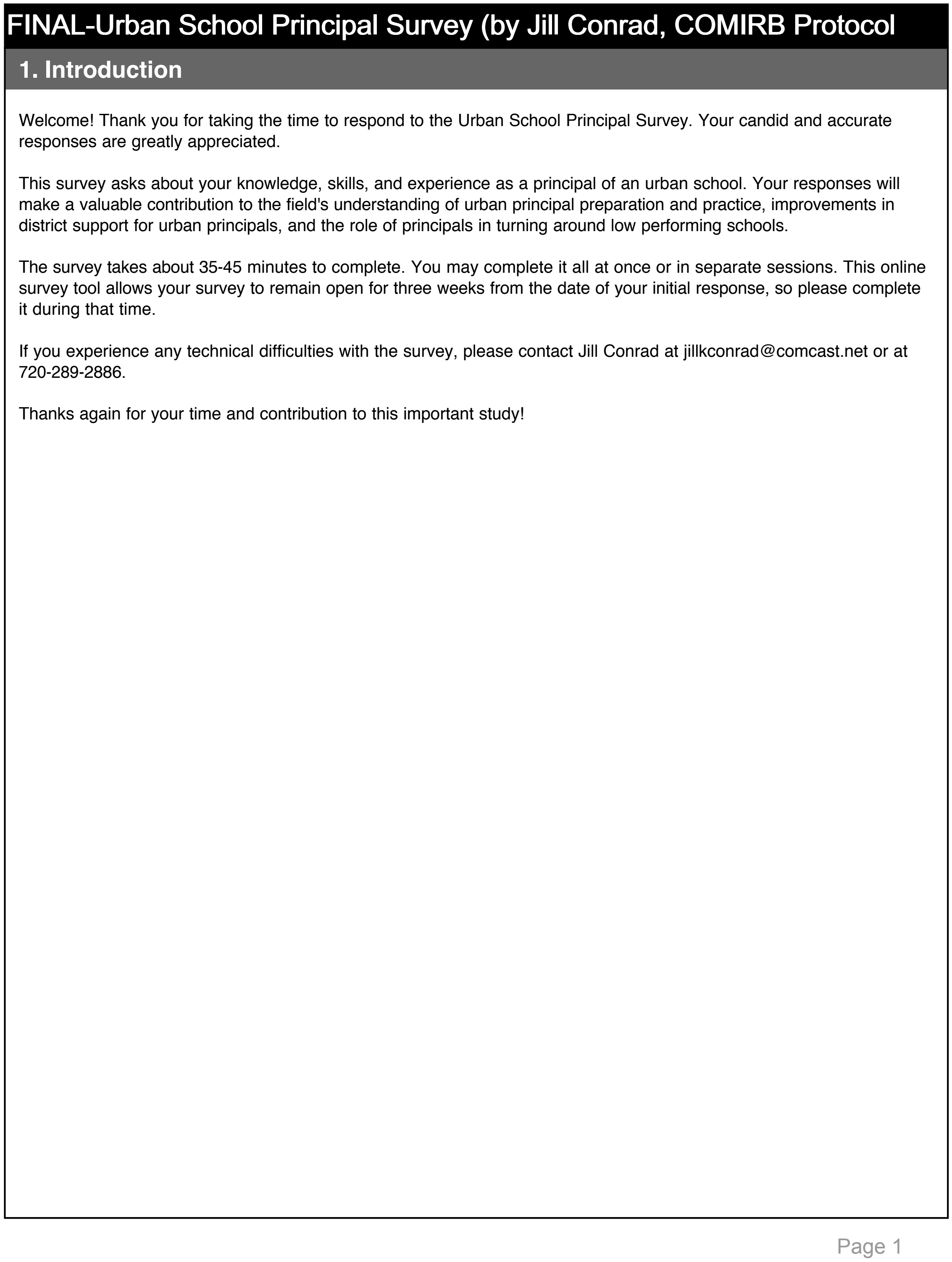
****

Jill K. Conrad

720-289-2886

jillconrad2010@gmail.com

Appendix G: Urban Principal Survey



FINAL-Urban School Principal Survey (by Jill Conrad, COMIRB Protocol

1. Introduction

Welcome! Thank you for taking the time to respond to the Urban School Principal Survey. Your candid and accurate responses are greatly appreciated.

This survey asks about your knowledge, skills, and experience as a principal of an urban school. Your responses will make a valuable contribution to the field's understanding of urban principal preparation and practice, improvements in district support for urban principals, and the role of principals in turning around low performing schools.

The survey takes about 35-45 minutes to complete. You may complete it all at once or in separate sessions. This online survey tool allows your survey to remain open for three weeks from the date of your initial response, so please complete it during that time.

If you experience any technical difficulties with the survey, please contact Jill Conrad at jillkconrad@comcast.net or at 720-289-2886.

Thanks again for your time and contribution to this important study!

2. Informed Consent-Part 1

Following is information about this study in which you have been asked to participate. Please read the information below carefully and contact Jill K. Conrad at jillkconrad@comcast.net or 720-289-2886 to ask questions about anything that you don't undertand before deciding whether or not to take part.

WHY THIS STUDY?
This study is for my doctoral dissertation. I am currently a doctoral candidate in the Education Leadership and Innovation (EDLI) program at the University of Colorado at Denver. The study investigates the role of principals in urban schools, and you have been included because you currently are a principal in an urban district. Up to 168 principals and other subjects are expected to participate in the study.

WHAT HAPPENS IF YOU JOIN THIS STUDY?
If you join the study, you will make a valuable contribution to our understanding of urban district reform and in particular, the development and application of principals' knowledge and skills in urban schools. The full study comprises interviews with district leaders, a brief questionnaire for instructional superintendents, and this survey for urban principals. The survey will take you about 45 minutes to complete.

3. Informed Consent-Part 2

WHAT ARE THE POSSIBLE DISCOMFORTS OR RISKS?
Very few risks and discomforts likely result from this study. All questions asked in the study are similar to those you might encounter in the normal course of your work. Nonetheless, discomforts you may experience while in this study include revealing various aspects of your practice as a principal as well as your perceptions of the district.

As the researcher, I, Jill K. Conrad, acknowledge that although my role on the DPS School Board ended on November 30, 2009 (prior to the administration of this survey), you may experience some level of discomfort in responding to questions candidly, and with the level of forthrightness due to your concerns about my possible influence with the DPS school board or the district superintendent. However, I pledge to take the following steps to mitigate any such discomfort on your part:

- All responses will be kept confidential and no individual responses will be reported. Results will only be reported by groups of schools and/or school leaders based on patterns and themes that arise in the responses.

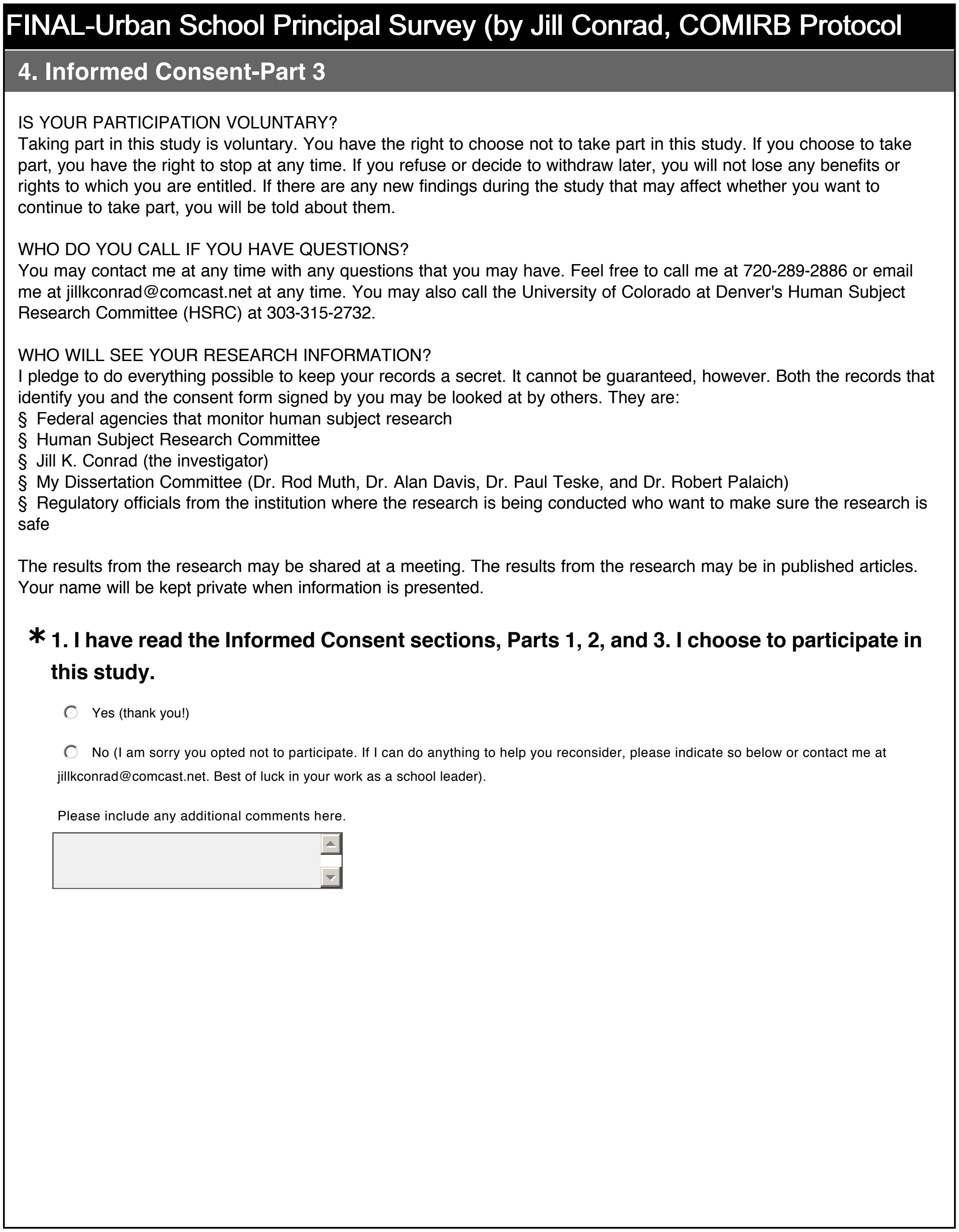
- Data will neither be discussed nor shared with any member of the DPS school board, administration, or any other individual or entity beyond myself and members of my dissertation committee (It is likely, however, that final results of the study will be shared publicly through publication and various presentations with the above-mentioned audiences. At such time, the confidentiality of individual responses will not be violated.)

Part of the study will also include an analysis of the School Performance Framework (SPF) results for all DPS schools. To answer all of the research questions in the study, it will be necessary for me to keep track of the specific school in which you are currently a principal, during the initial analysis phase of the study. This will allow me to accurately analyze patterns of school SPF results relative to various principal preparation, professional development, practices, and behaviors. To mitigate any discomfort you may feel by participating in the study, I pledge to:

- Make sure that your name and your school will be kept private whenever any information related to the study or its findings are presented
- Make sure that no responses by any individual will ever be linked to any specific school in published or publicly presented findings.

WHAT ARE THE POSSIBLE BENEFITS OF THE STUDY?
Possible benefits of the study include expanding the field's understanding of urban principal preparation and practice, improvements in district support for urban principals, and the role of principals in turning around low performing schools.

WILL YOU BE PAID FOR BEING IN THE STUDY? WILL YOU HAVE TO PAY FOR ANYTHING?
It will not cost you anything to participate in the study. However, if you choose to participate and provide your name and email address, you will receive a $5 Starbucks gift certificate AND be entered into a drawing for a $100 dinner at Strings Restaurant in downtown Denver. If you opt to participate, I will also send you a summary of the findings of the study.



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4. Informed Consent-Part 3

IS YOUR PARTICIPATION VOLUNTARY?
Taking part in this study is voluntary. You have the right to choose not to take part in this study. If you choose to take part, you have the right to stop at any time. If you refuse or decide to withdraw later, you will not lose any benefits or rights to which you are entitled. If there are any new findings during the study that may affect whether you want to continue to take part, you will be told about them.

WHO DO YOU CALL IF YOU HAVE QUESTIONS?
You may contact me at any time with any questions that you may have. Feel free to call me at 720-289-2886 or email me at jillkconrad@comcast.net at any time. You may also call the University of Colorado at Denver's Human Subject Research Committee (HSRC) at 303-315-2732.

WHO WILL SEE YOUR RESEARCH INFORMATION?
I pledge to do everything possible to keep your records a secret. It cannot be guaranteed, however. Both the records that identify you and the consent form signed by you may be looked at by others. They are:

§ Federal agencies that monitor human subject research
§ Human Subject Research Committee
§ Jill K. Conrad (the investigator)
§ My Dissertation Committee (Dr. Rod Muth, Dr. Alan Davis, Dr. Paul Teske, and Dr. Robert Palaich)
§ Regulatory officials from the institution where the research is being conducted who want to make sure the research is safe

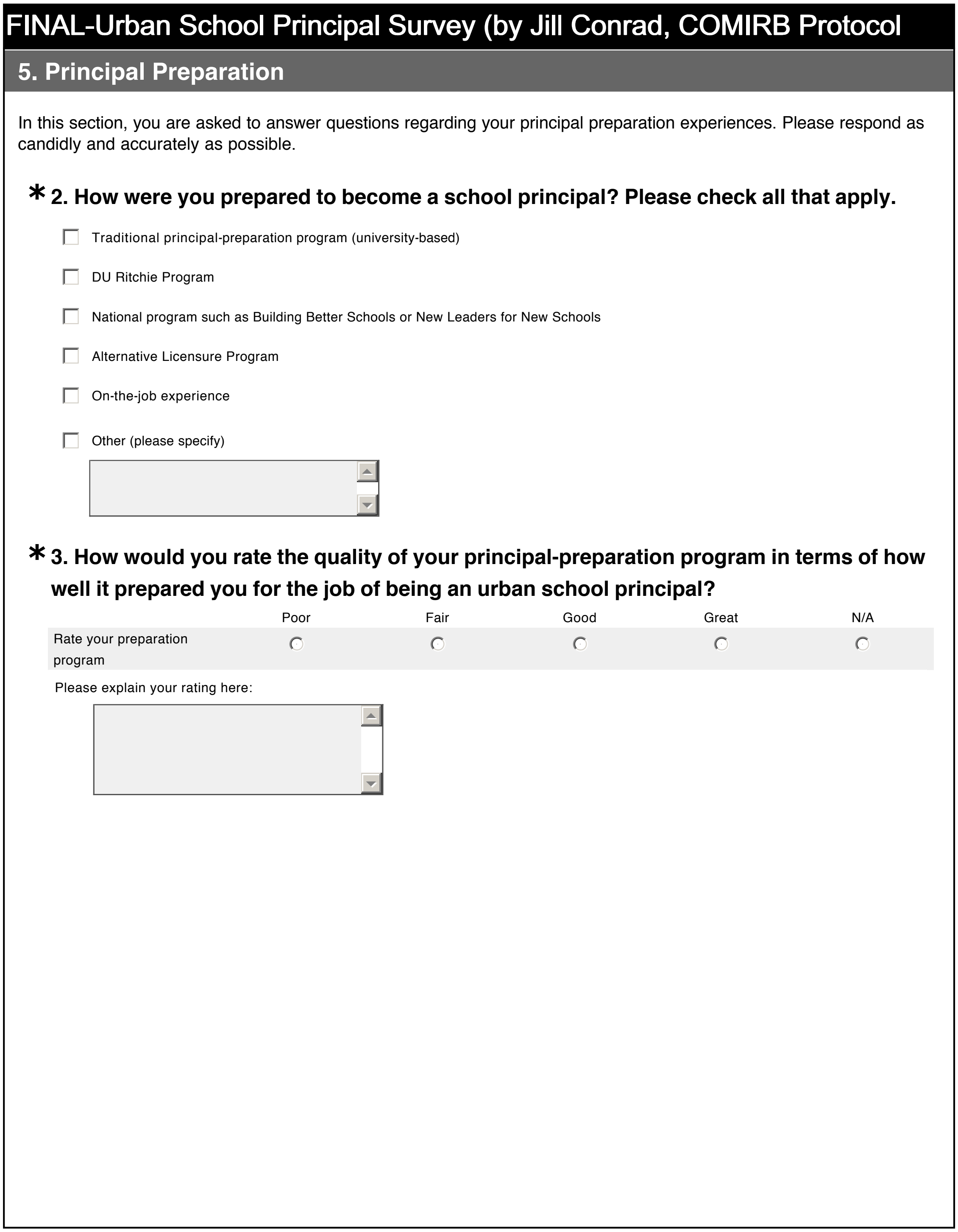
The results from the research may be shared at a meeting. The results from the research may be in published articles. Your name will be kept private when information is presented.

*** 1. I have read the Informed Consent sections, Parts 1, 2, and 3. I choose to participate in this study.**

○ Yes (thank you!)

○ No (I am sorry you opted not to participate. If I can do anything to help you reconsider, please indicate so below or contact me at jillkconrad@comcast.net. Best of luck in your work as a school leader).

Please include any additional comments here.



FINAL-Urban School Principal Survey (by Jill Conrad, COMIRB Protocol

5. Principal Preparation

In this section, you are asked to answer questions regarding your principal preparation experiences. Please respond as candidly and accurately as possible.

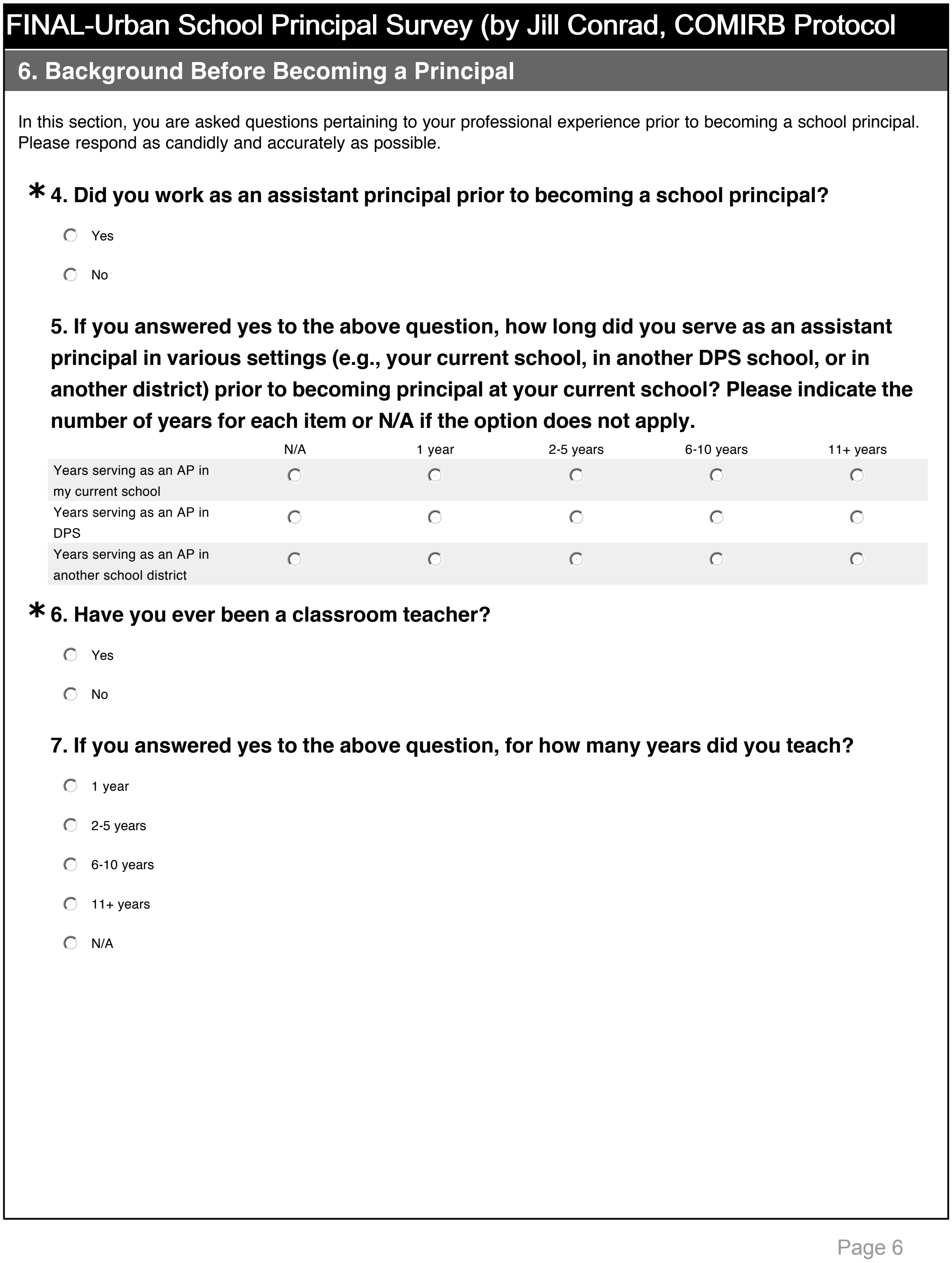
*** 2. How were you prepared to become a school principal? Please check all that apply.**

☐ Traditional principal-preparation program (university-based)
☐ DU Ritchie Program
☐ National program such as Building Better Schools or New Leaders for New Schools
☐ Alternative Licensure Program
☐ On-the-job experience
☐ Other (please specify)

*** 3. How would you rate the quality of your principal-preparation program in terms of how well it prepared you for the job of being an urban school principal?**

	Poor	Fair	Good	Great	N/A
Rate your preparation program	○	○	○	○	○

Please explain your rating here:



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6. Background Before Becoming a Principal

In this section, you are asked questions pertaining to your professional experience prior to becoming a school principal. Please respond as candidly and accurately as possible.

*** 4. Did you work as an assistant principal prior to becoming a school principal?**

○ Yes

○ No

5. If you answered yes to the above question, how long did you serve as an assistant principal in various settings (e.g., your current school, in another DPS school, or in another district) prior to becoming principal at your current school? Please indicate the number of years for each item or N/A if the option does not apply.

	N/A	1 year	2-5 years	6-10 years	11+ years
Years serving as an AP in my current school	○	○	○	○	○
Years serving as an AP in DPS	○	○	○	○	○
Years serving as an AP in another school district	○	○	○	○	○

*** 6. Have you ever been a classroom teacher?**

○ Yes

○ No

7. If you answered yes to the above question, for how many years did you teach?

○ 1 year

○ 2-5 years

○ 6-10 years

○ 11+ years

○ N/A

7. Principal Practice

In this section, you are asked questions related the professional practices of a school principal.

*** 8. Below are several statements related to standards of principal practice. Please read each statement carefully while considering how effective you have implemented this standard of practice at your current school. How would your staff rate your effectiveness implementing these practices? On a scale of 1 through 5, where 1 = my practice needs considerable development; 2 = my practice needs some development; 3 = my practice is competent; 4 = my practice is effective; and 5 = my practice is very effective, PLEASE INDICATE HOW YOU THINK YOUR CURRENT STAFF AND FACULTY WOULD RATE YOUR EFFECTIVENESS in each standard of practice. If the practice does not apply to your current work as a principal, please select N/A. Please be as candid as possible in your responses.**

	1 = my practice needs considerable development	2 = my practice needs some development	3 = my practice is competent	4 = my practice is effective	5 = my practice is very effective	N/A
a) I demonstrate appropriate ethical behavior expected by the profession	○	○	○	○	○	○
b) I act to influence district decisions affecting student learning	○	○	○	○	○	○
c) I have successfully gained the genuine commitment of all stakeholders in my school	○	○	○	○	○	○
d) I analyze data pertinent to the educational environment for my school	○	○	○	○	○	○
e) I manage the organizational operations of my school	○	○	○	○	○	○
f) I maintain high standards for my own professional learning	○	○	○	○	○	○
g) I collect and use data to assess organizational effectiveness	○	○	○	○	○	○
h) I promote a rigorous approach to curriculum and instruction	○	○	○	○	○	○
i) I maximize time spent on quality instruction in my school	○	○	○	○	○	○
j) I align resources to support teaching and	○	○	○	○	○	○

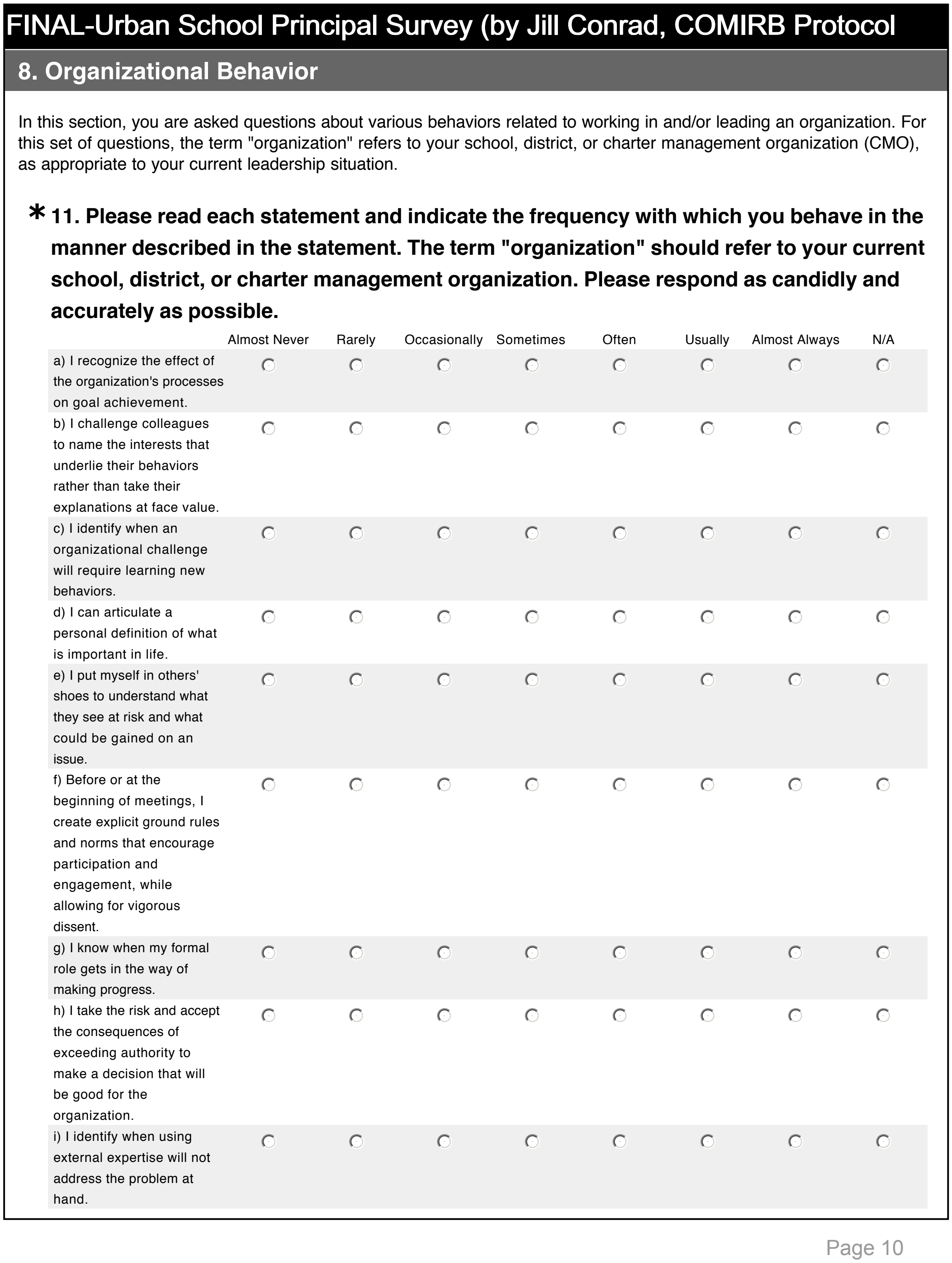
learning in my school						
k) I engage in policy making related to my school	○	○	○	○	○	○

*** 9. (Principal Practice, continued...) Below are several statements related to standards of principal practice. Please read each statement carefully while considering how effective you have implemented this standard of practice at your current school. How would your staff rate your effectiveness implementing these practices? On a scale of 1 through 5, where 1 = my practice needs considerable development; 2 = my practice needs some development; 3 = my practice is competent; 4 = my practice is effective; and 5 = my practice is very effective, PLEASE INDICATE HOW YOU THINK YOUR CURRENT STAFF AND FACULTY WOULD RATE YOUR EFFECTIVENESS in each standard of practice. If the practice does not apply to your current work as a principal, please select N/A. Please be as candid as possible in your responses.**

	1 = my practice needs considerable development	2 = my practice needs some development	3 = my practice is competent	4 = my practice is effective	5 = my practice is very effective	N/A
a) I focus on continuous improvement toward achieving the goals of my school	○	○	○	○	○	○
b) I develop the instructional capacity of my staff	○	○	○	○	○	○
c) I promote the use of appropriate technologies to support teaching and learning	○	○	○	○	○	○
d) I hire highly qualified staff to work in my school	○	○	○	○	○	○
e) I develop a shared commitment to implement the vision, mission, and goals of my school	○	○	○	○	○	○
f) I create a personalized learning environment for students in my school	○	○	○	○	○	○
g) I analyze emerging trends in order to adapt leadership strategies	○	○	○	○	○	○
h) I promote appreciation for the community's diversity in my school	○	○	○	○	○	○
i) I set high expectations for all in my school	○	○	○	○	○	○
j) I distribute leadership responsibilities in my school	○	○	○	○	○	○
k) I actively collaborate with families and parents	○	○	○	○	○	○

*** 10. (Principal Practice, continued...) Below are several statements related to standards of principal practice. Please read each statement carefully while considering how effective you have implemented this standard of practice at your current school. How would your staff rate your effectiveness implementing these practices? On a scale of 1 through 5, where 1 = my practice needs considerable development; 2 = my practice needs some development; 3 = my practice is competent; 4 = my practice is effective; and 5 = my practice is very effective, PLEASE INDICATE HOW YOU THINK YOUR CURRENT STAFF AND FACULTY WOULD RATE YOUR EFFECTIVENESS in each standard of practice. If the practice does not apply to your current work as a principal, please select N/A. Please be as candid as possible in your responses.**

	1 = my practice needs considerable development	2 = my practice needs some development	3 = my practice is competent	4 = my practice is effective	5 = my practice is very effective	N/A
a) I support the continuous improvement of instructional practice in my school	○	○	○	○	○	○
b) I ensure a safe environment in my school	○	○	○	○	○	○
c) I mobilize community resources to improve teaching and learning	○	○	○	○	○	○
d) I continuously monitor teaching and learning in my school	○	○	○	○	○	○
e) I have established a strong professional culture within the school	○	○	○	○	○	○
f) I develop the leadership capacity of my staff	○	○	○	○	○	○
g) I use performance measures to monitor student progress and identify strategies for improvement	○	○	○	○	○	○
h) I evaluate progress toward meeting goals	○	○	○	○	○	○
i) I ensure that individual student needs inform all aspect of schooling	○	○	○	○	○	○
j) I model principles of reflective practice	○	○	○	○	○	○
k) I help to improve the broader context of the education system	○	○	○	○	○	○



FINAL-Urban School Principal Survey (by Jill Conrad, COMIRB Protocol

8. Organizational Behavior

In this section, you are asked questions about various behaviors related to working in and/or leading an organization. For this set of questions, the term "organization" refers to your school, district, or charter management organization (CMO), as appropriate to your current leadership situation.

*** 11. Please read each statement and indicate the frequency with which you behave in the manner described in the statement. The term "organization" should refer to your current school, district, or charter management organization. Please respond as candidly and accurately as possible.**

	Almost Never	Rarely	Occasionally	Sometimes	Often	Usually	Almost Always	N/A
a) I recognize the effect of the organization's processes on goal achievement.	○	○	○	○	○	○	○	○
b) I challenge colleagues to name the interests that underlie their behaviors rather than take their explanations at face value.	○	○	○	○	○	○	○	○
c) I identify when an organizational challenge will require learning new behaviors.	○	○	○	○	○	○	○	○
d) I can articulate a personal definition of what is important in life.	○	○	○	○	○	○	○	○
e) I put myself in others' shoes to understand what they see at risk and what could be gained on an issue.	○	○	○	○	○	○	○	○
f) Before or at the beginning of meetings, I create explicit ground rules and norms that encourage participation and engagement, while allowing for vigorous dissent.	○	○	○	○	○	○	○	○
g) I know when my formal role gets in the way of making progress.	○	○	○	○	○	○	○	○
h) I take the risk and accept the consequences of exceeding authority to make a decision that will be good for the organization.	○	○	○	○	○	○	○	○
i) I identify when using external expertise will not address the problem at hand.	○	○	○	○	○	○	○	○

Page 10

j) When addressing a problem, I begin by naming my own contribution to it.	○	○	○	○	○	○	○	○
k) When leading a change process, I spend a lot of time meeting with the most vocal resisters.	○	○	○	○	○	○	○	○

*** 12. (Organizational Behavior, continued...) Please read each statement and indicate the frequency with which you behave in the manner described in the statement. The term "organization" should refer to your current school, district, or charter management organization. Please respond as candidly and accurately as possible.**

	Almost Never	Rarely	Occasionally	Sometimes	Often	Usually	Almost Always	N/A
a) I recognize how day-to-day decisions fit into a bigger picture.	○	○	○	○	○	○	○	○
b) I recognize what particular alliances will be required to achieve a purpose.	○	○	○	○	○	○	○	○
c) I can name what is expected of me that is beyond my formal role.	○	○	○	○	○	○	○	○
d) I recognize the impact of the organization's environment on individuals' performance.	○	○	○	○	○	○	○	○
e) When the group is wrestling with a difficult problem, I surface disagreements rather than agreements.	○	○	○	○	○	○	○	○
f) I understand that the behavior of my boss is feedback about reaction from the rest of the organization rather than the boss' personal view.	○	○	○	○	○	○	○	○
g) I get the group to resolve their difficult issues themselves, even if I have a preferred outcome.	○	○	○	○	○	○	○	○
h) My capacity to do my job well comes mostly from my expertise.	○	○	○	○	○	○	○	○
i) I risk experiencing the disapproval of people in authority to do what is in the best interest of the group.	○	○	○	○	○	○	○	○
j) I see when a proposed action will only provide a temporary solution to an	○	○	○	○	○	○	○	○

organization challenge.

*** 13. (Organizational Behavior, continued...) Please read each statement and indicate the frequency with which you behave in the manner described in the statement. The term "organization" should refer to your current school, district, or charter management organization. Please respond as candidly and accurately as possible.**

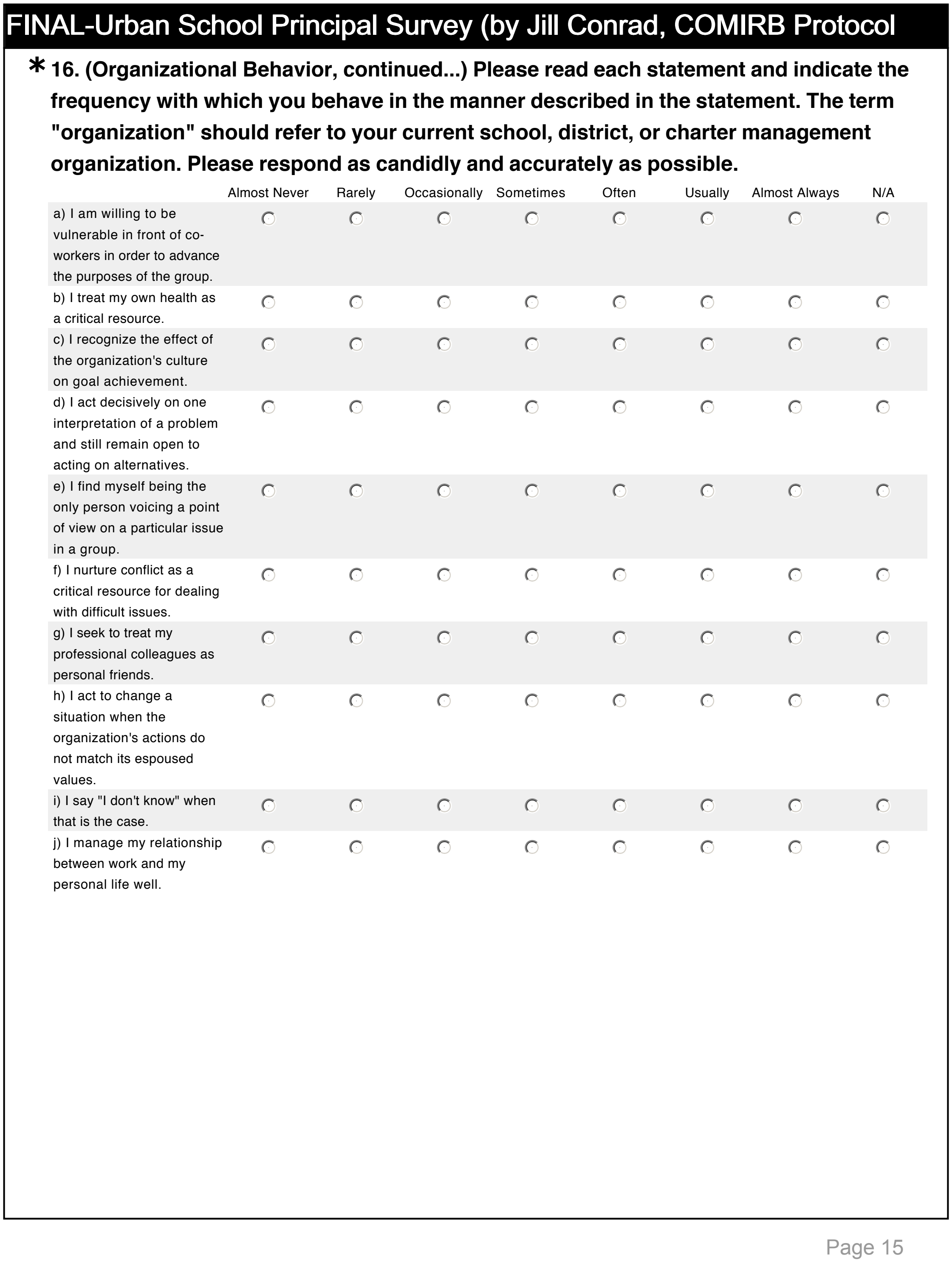
	Almost Never	Rarely	Occasionally	Sometimes	Often	Usually	Almost Always	N/A
a) I acknowledge the unintended negative consequences of my own actions.	○	○	○	○	○	○	○	○
b) I can articulate what would be worth leaving the organization over.	○	○	○	○	○	○	○	○
c) I identify which stakeholders need to be engaged to advance an issue.	○	○	○	○	○	○	○	○
d) I routinely schedule time for personal reflection.	○	○	○	○	○	○	○	○
e) I know what stereotypes I represent for my colleagues.	○	○	○	○	○	○	○	○
f) I recognize when there is a gap between espoused values and patterns of behavior in the organization.	○	○	○	○	○	○	○	○
g) When members of my team are in conflict, I look to the organization's dynamics rather than focus on the personalities involved.	○	○	○	○	○	○	○	○
h) When addressing a challenge, I recognize when loss for individuals and groups will result.	○	○	○	○	○	○	○	○
i) I seek out the unspoken interests and loyalties of each stakeholder group.	○	○	○	○	○	○	○	○
j) I surface unspoken conflict and disagreement even when it is disruptive.	○	○	○	○	○	○	○	○

*** 14. (Organizational Behavior, continued...) Please read each statement and indicate the frequency with which you behave in the manner described in the statement. The term "organization" should refer to your current school, district, or charter management organization. Please respond as candidly and accurately as possible.**

	Almost Never	Rarely	Occasionally	Sometimes	Often	Usually	Almost Always	N/A
a) I avoid working beyond physical limits and endurance.	○	○	○	○	○	○	○	○
b) I move off of long held positions when a change of direction is necessary.	○	○	○	○	○	○	○	○
c) I recognize when I am being used by the group or organization to avoid difficult issues.	○	○	○	○	○	○	○	○
d) I recognize when my own behavioral change will be required if the challenge is to be addressed effectively.	○	○	○	○	○	○	○	○
e) I act outside of my own comfortable ways of doing things when those preferences are interfering with progress.	○	○	○	○	○	○	○	○
f) When firing someone, I keep the conversation as direct and brief as possible.	○	○	○	○	○	○	○	○
g) I distinguish between making short term progress and preserving enduring important purposes when they conflict.	○	○	○	○	○	○	○	○
h) I take attacks personally.	○	○	○	○	○	○	○	○
i) I identify factions relevant to the issue.	○	○	○	○	○	○	○	○
j) I raise group dynamics issues whenever they are impacting the effectiveness of the group.	○	○	○	○	○	○	○	○

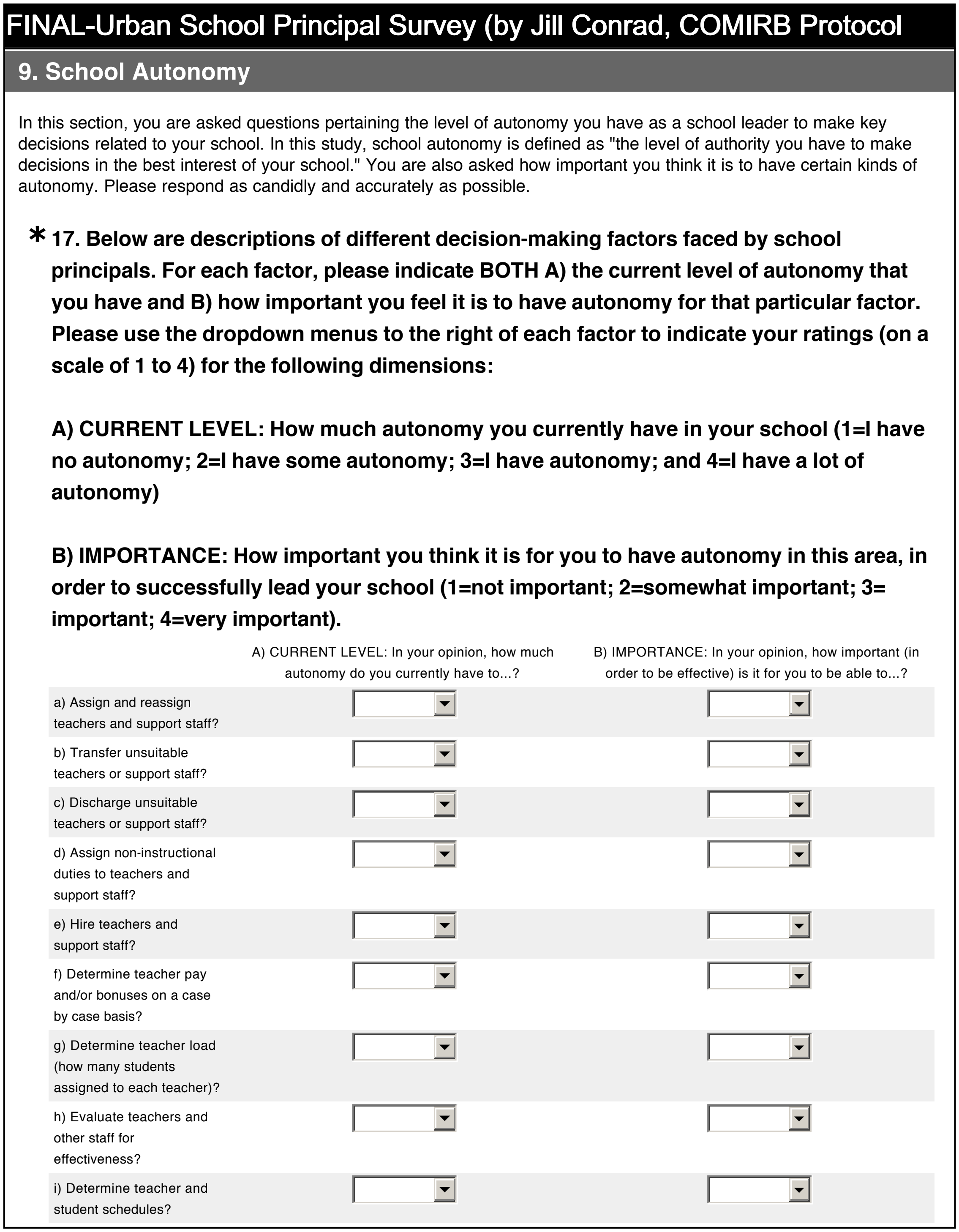
*** 15. (Organizational Behavior, continued...) Please read each statement and indicate the frequency with which you behave in the manner described in the statement. The term "organization" should refer to your current school, district, or charter management organization. Please respond as candidly and accurately as possible.**

	Almost Never	Rarely	Occasionally	Sometimes	Often	Usually	Almost Always	N/A
a) I am willing to compromise my vision to incorporate perspectives that are hostile to my own.	○	○	○	○	○	○	○	○
b) When leading the team, if members distract the group's work, I stop the work and comment on their impact.	○	○	○	○	○	○	○	○
c) When confronted with compelling, competing personal values, I choose which one takes priority.	○	○	○	○	○	○	○	○
d) I apologize in public after having made a mistake.	○	○	○	○	○	○	○	○
e) I treat resistance as evidence that a hard problem is being addressed.	○	○	○	○	○	○	○	○
f) When the group is working on a tough issue, I keep the conversation going rather than accepting the first solution that makes sense.	○	○	○	○	○	○	○	○
g) When tackling difficult challenges, I expect that I might disappoint some people I care about.	○	○	○	○	○	○	○	○
h) I am willing to risk having difficult conversations about work issues.	○	○	○	○	○	○	○	○
i) I recognize when it is more important to have the right people and interests engaged in addressing challenges rather than in implementing my own preferred outcome.	○	○	○	○	○	○	○	○
j) I stay open to alternative actions, even when I am clear about what to do.	○	○	○	○	○	○	○	○



*** 16. (Organizational Behavior, continued...) Please read each statement and indicate the frequency with which you behave in the manner described in the statement. The term "organization" should refer to your current school, district, or charter management organization. Please respond as candidly and accurately as possible.**

	Almost Never	Rarely	Occasionally	Sometimes	Often	Usually	Almost Always	N/A
a) I am willing to be vulnerable in front of co-workers in order to advance the purposes of the group.	○	○	○	○	○	○	○	○
b) I treat my own health as a critical resource.	○	○	○	○	○	○	○	○
c) I recognize the effect of the organization's culture on goal achievement.	○	○	○	○	○	○	○	○
d) I act decisively on one interpretation of a problem and still remain open to acting on alternatives.	○	○	○	○	○	○	○	○
e) I find myself being the only person voicing a point of view on a particular issue in a group.	○	○	○	○	○	○	○	○
f) I nurture conflict as a critical resource for dealing with difficult issues.	○	○	○	○	○	○	○	○
g) I seek to treat my professional colleagues as personal friends.	○	○	○	○	○	○	○	○
h) I act to change a situation when the organization's actions do not match its espoused values.	○	○	○	○	○	○	○	○
i) I say "I don't know" when that is the case.	○	○	○	○	○	○	○	○
j) I manage my relationship between work and my personal life well.	○	○	○	○	○	○	○	○



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9. School Autonomy

In this section, you are asked questions pertaining the level of autonomy you have as a school leader to make key decisions related to your school. In this study, school autonomy is defined as "the level of authority you have to make decisions in the best interest of your school." You are also asked how important you think it is to have certain kinds of autonomy. Please respond as candidly and accurately as possible.

*** 17. Below are descriptions of different decision-making factors faced by school principals. For each factor, please indicate BOTH A) the current level of autonomy that you have and B) how important you feel it is to have autonomy for that particular factor. Please use the dropdown menus to the right of each factor to indicate your ratings (on a scale of 1 to 4) for the following dimensions:**

A) CURRENT LEVEL: How much autonomy you currently have in your school (1=I have no autonomy; 2=I have some autonomy; 3=I have autonomy; and 4=I have a lot of autonomy)

B) IMPORTANCE: How important you think it is for you to have autonomy in this area, in order to successfully lead your school (1=not important; 2=somewhat important; 3= important; 4=very important).

	A) CURRENT LEVEL: In your opinion, how much autonomy do you currently have to...?	B) IMPORTANCE: In your opinion, how important (in order to be effective) is it for you to be able to...?
a) Assign and reassign teachers and support staff?		
b) Transfer unsuitable teachers or support staff?		
c) Discharge unsuitable teachers or support staff?		
d) Assign non-instructional duties to teachers and support staff?		
e) Hire teachers and support staff?		
f) Determine teacher pay and/or bonuses on a case by case basis?		
g) Determine teacher load (how many students assigned to each teacher)?		
h) Evaluate teachers and other staff for effectiveness?		
i) Determine teacher and student schedules?		

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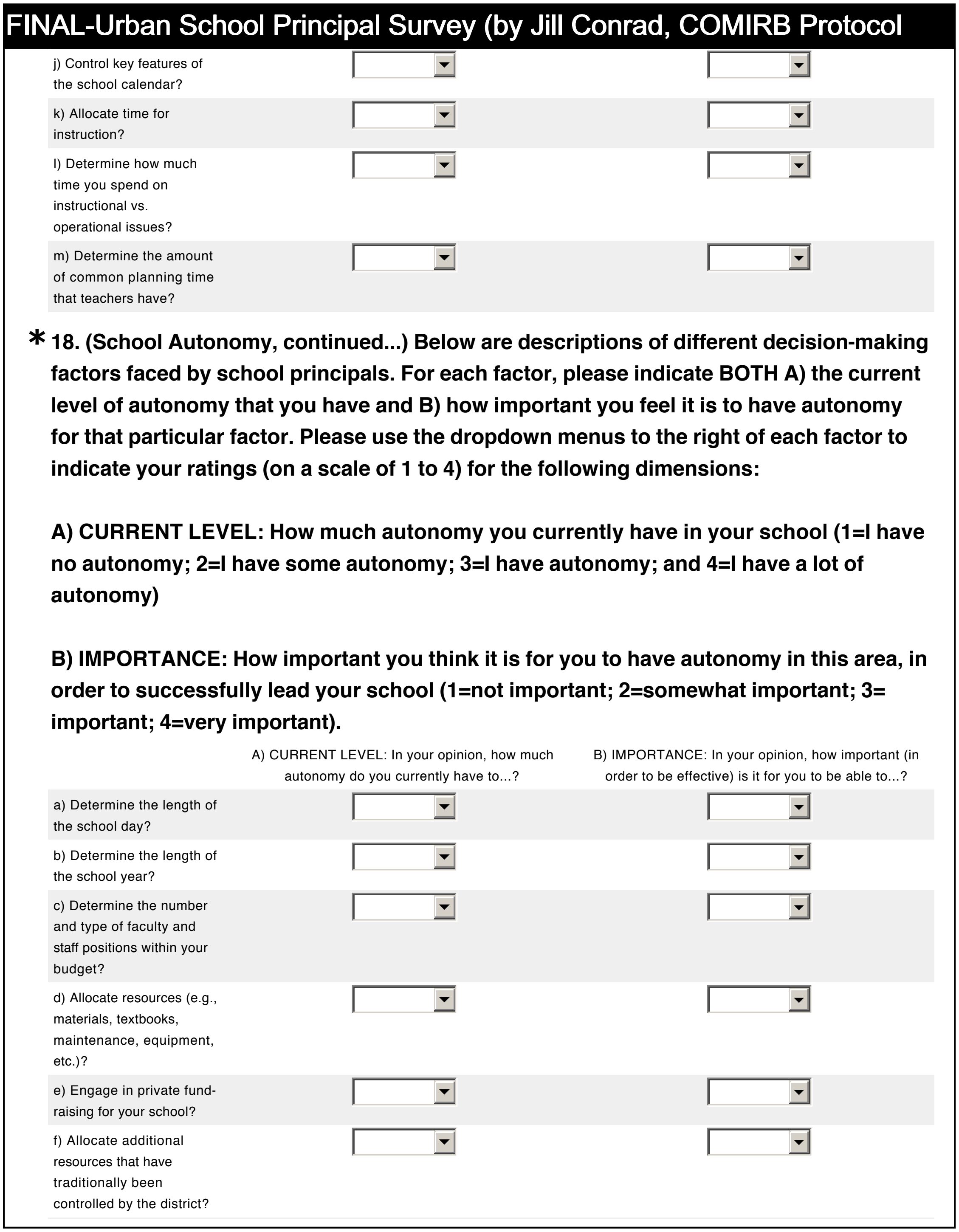


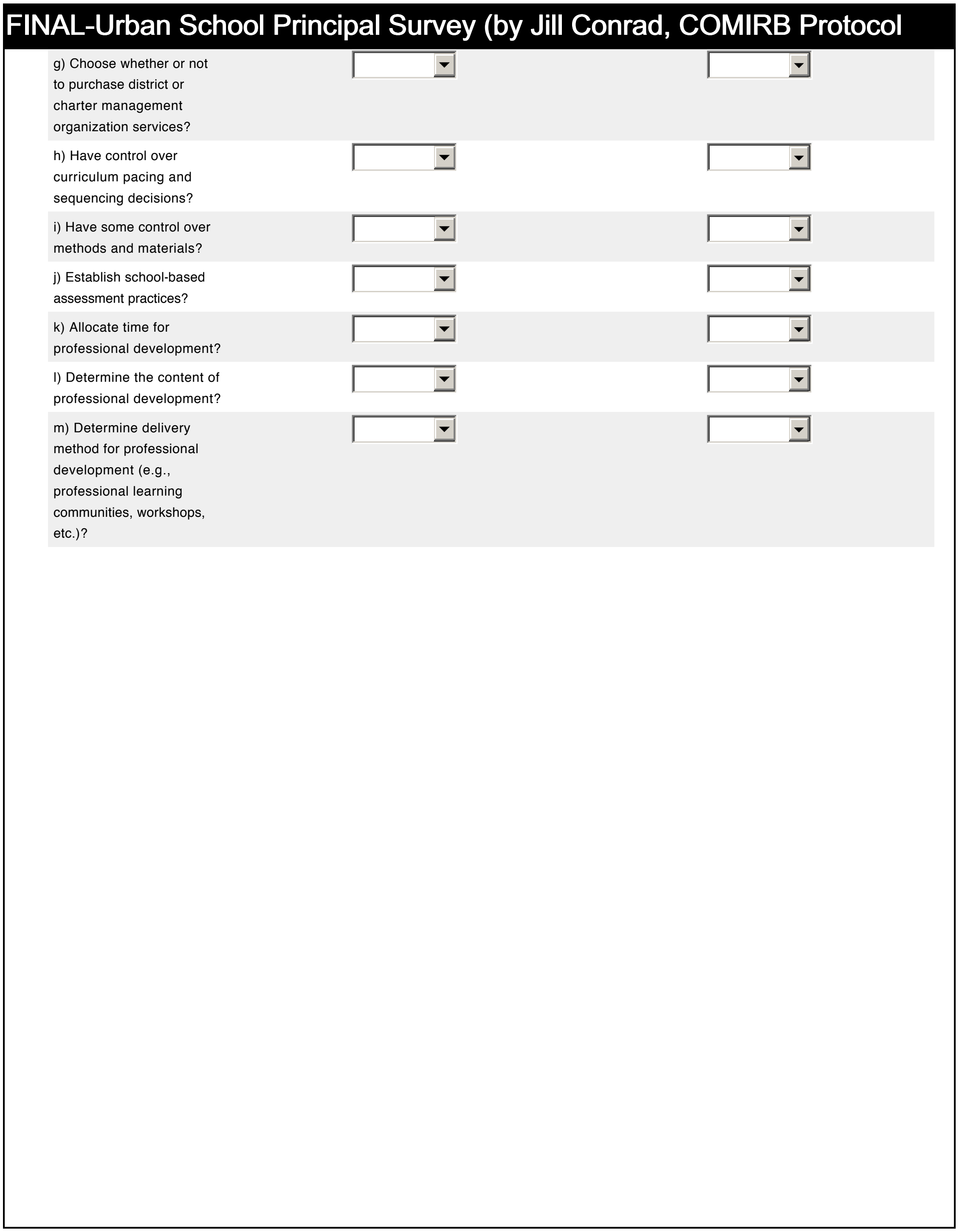
j) Control key features of the school calendar?		
k) Allocate time for instruction?		
l) Determine how much time you spend on instructional vs. operational issues?		
m) Determine the amount of common planning time that teachers have?		

*** 18. (School Autonomy, continued...) Below are descriptions of different decision-making factors faced by school principals. For each factor, please indicate BOTH A) the current level of autonomy that you have and B) how important you feel it is to have autonomy for that particular factor. Please use the dropdown menus to the right of each factor to indicate your ratings (on a scale of 1 to 4) for the following dimensions:**

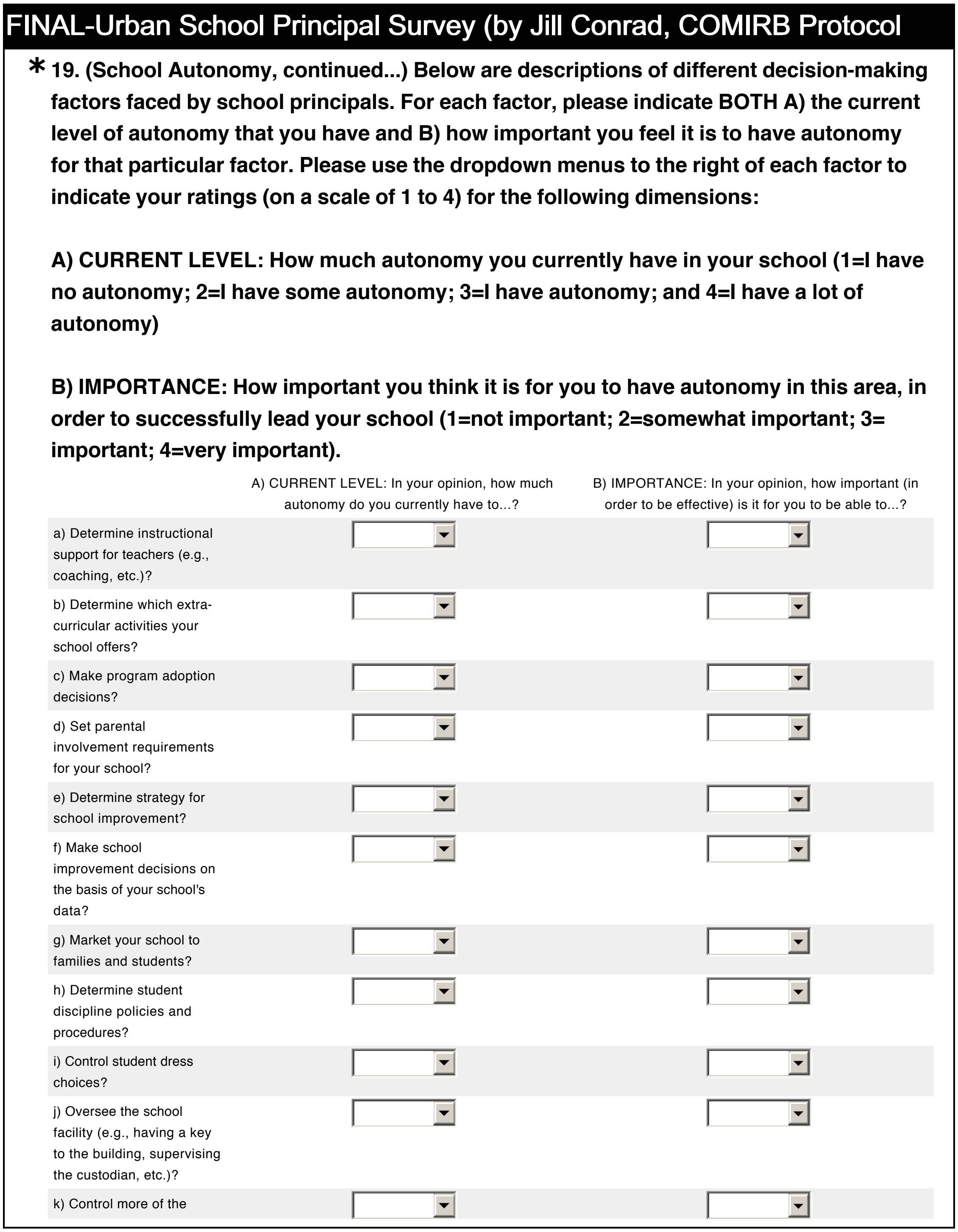
A) CURRENT LEVEL: How much autonomy you currently have in your school (1=I have no autonomy; 2=I have some autonomy; 3=I have autonomy; and 4=I have a lot of autonomy)

B) IMPORTANCE: How important you think it is for you to have autonomy in this area, in order to successfully lead your school (1=not important; 2=somewhat important; 3= important; 4=very important).

	A) CURRENT LEVEL: In your opinion, how much autonomy do you currently have to...?	B) IMPORTANCE: In your opinion, how important (in order to be effective) is it for you to be able to...?
a) Determine the length of the school day?		
b) Determine the length of the school year?		
c) Determine the number and type of faculty and staff positions within your budget?		
d) Allocate resources (e.g., materials, textbooks, maintenance, equipment, etc.)?		
e) Engage in private fund-raising for your school?		
f) Allocate additional resources that have traditionally been controlled by the district?		



g) Choose whether or not to purchase district or charter management organization services?		
h) Have control over curriculum pacing and sequencing decisions?		
i) Have some control over methods and materials?		
j) Establish school-based assessment practices?		
k) Allocate time for professional development?		
l) Determine the content of professional development?		
m) Determine delivery method for professional development (e.g., professional learning communities, workshops, etc.)?		

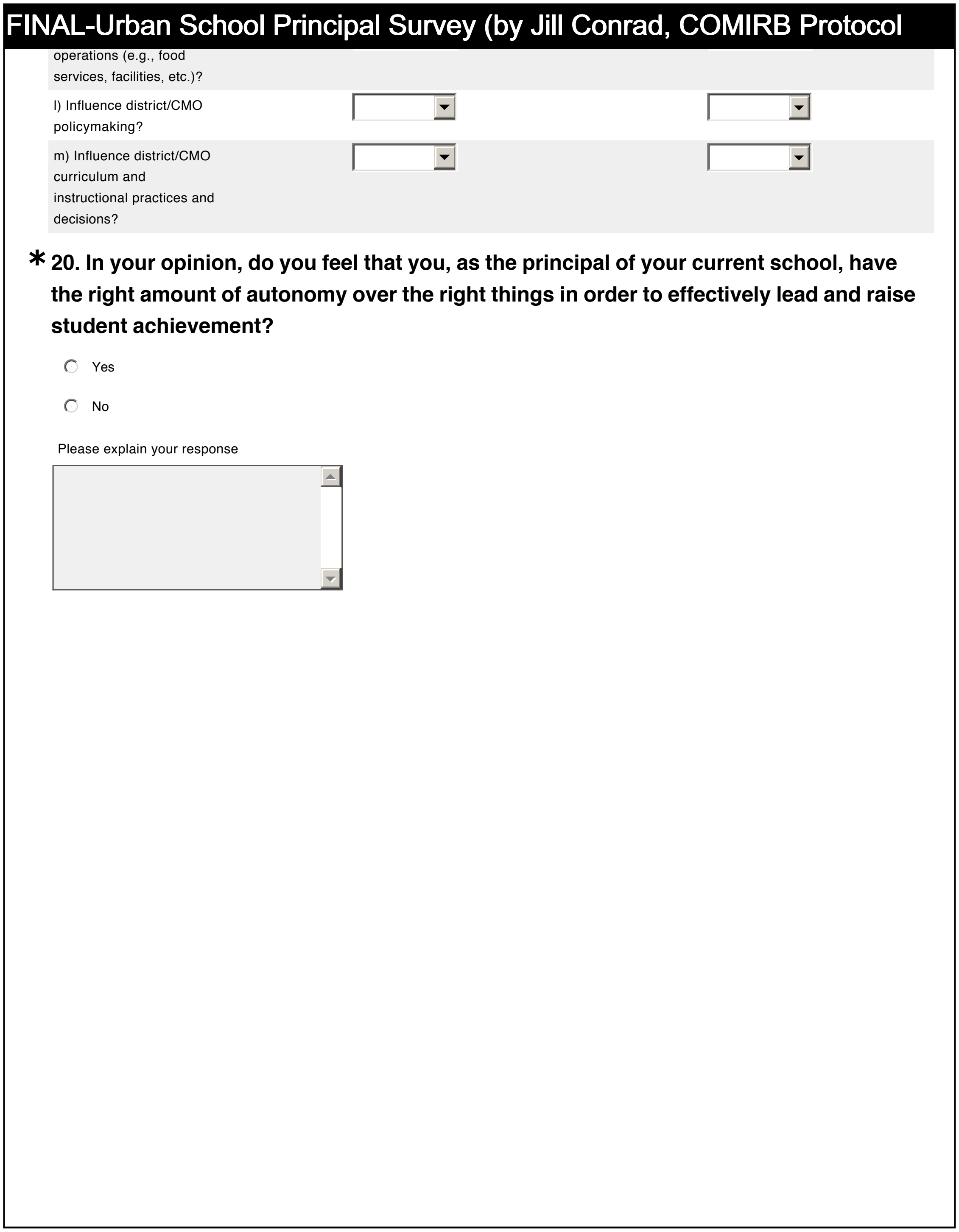


*** 19. (School Autonomy, continued...) Below are descriptions of different decision-making factors faced by school principals. For each factor, please indicate BOTH A) the current level of autonomy that you have and B) how important you feel it is to have autonomy for that particular factor. Please use the dropdown menus to the right of each factor to indicate your ratings (on a scale of 1 to 4) for the following dimensions:**

A) CURRENT LEVEL: How much autonomy you currently have in your school (1=I have no autonomy; 2=I have some autonomy; 3=I have autonomy; and 4=I have a lot of autonomy)

B) IMPORTANCE: How important you think it is for you to have autonomy in this area, in order to successfully lead your school (1=not important; 2=somewhat important; 3= important; 4=very important).

	A) CURRENT LEVEL: In your opinion, how much autonomy do you currently have to...?	B) IMPORTANCE: In your opinion, how important (in order to be effective) is it for you to be able to...?
a) Determine instructional support for teachers (e.g., coaching, etc.)?		
b) Determine which extra-curricular activities your school offers?		
c) Make program adoption decisions?		
d) Set parental involvement requirements for your school?		
e) Determine strategy for school improvement?		
f) Make school improvement decisions on the basis of your school's data?		
g) Market your school to families and students?		
h) Determine student discipline policies and procedures?		
i) Control student dress choices?		
j) Oversee the school facility (e.g., having a key to the building, supervising the custodian, etc.)?		
k) Control more of the		



operations (e.g., food services, facilities, etc.)?		
l) Influence district/CMO policymaking?	☐	☐
m) Influence district/CMO curriculum and instructional practices and decisions?	☐	☐

*** 20. In your opinion, do you feel that you, as the principal of your current school, have the right amount of autonomy over the right things in order to effectively lead and raise student achievement?**

○ Yes

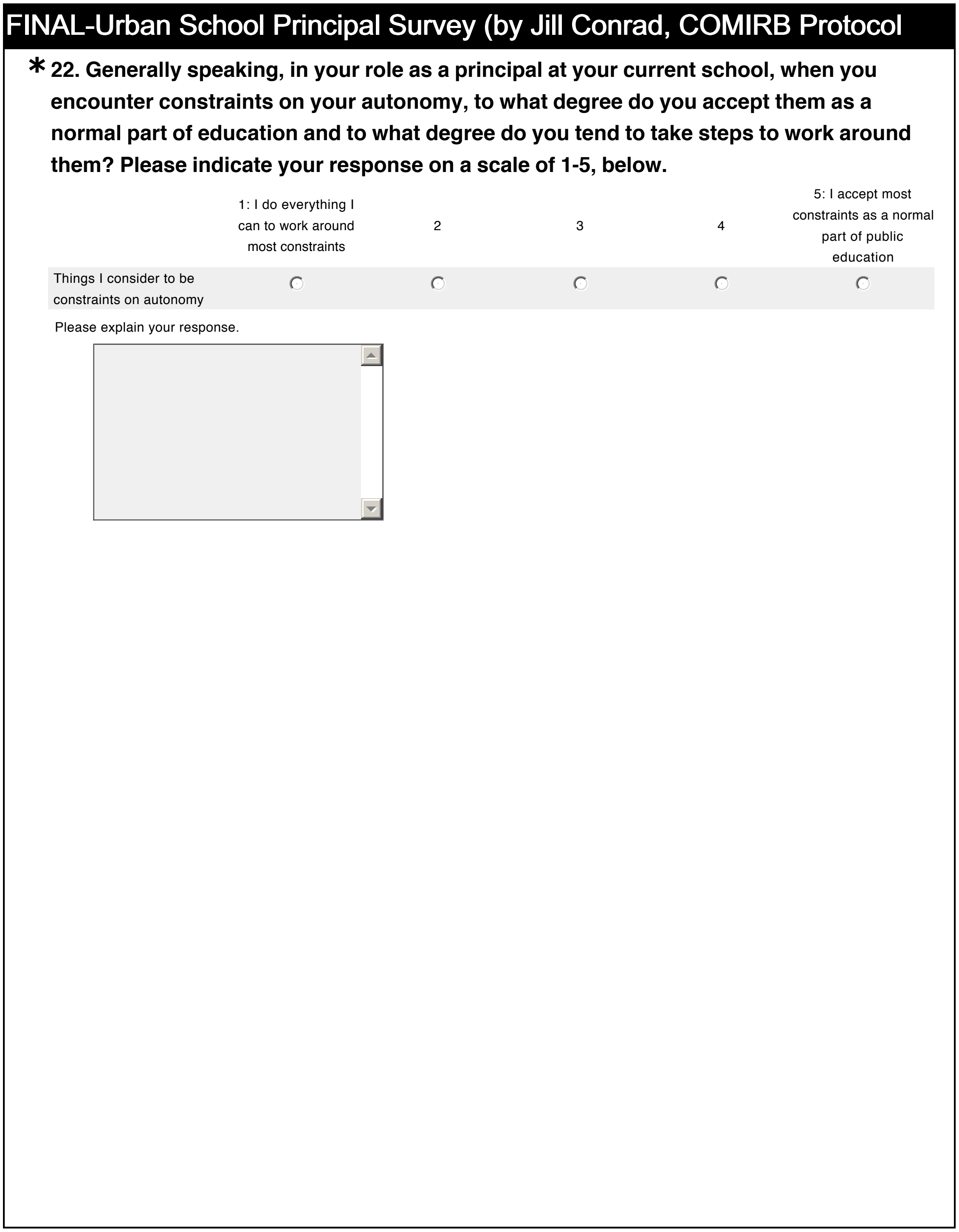
○ No

Please explain your response

*** 21. A list of possible constraints on your decision-making autonomy is presented below. To what degree are each of these factors currently constraining your ability to have the autonomy you'd like to have as the school leader? Please rate the degree of constraint you experience on a scale of 1 through 4 where 1 = Not a constraint; 2 = Somewhat of a constraint; 3 = Is a constraint; and 4 = Is very much a constraint.**

	1 = Not a constraint on my autonomy	2 = Somewhat of a constraint on my autonomy	3 = Is a constraint on my autonomy	4 = Is very much a constraint on my autonomy
The district or CMO's policies or rules	○	○	○	○
District culture, norms, or operational traditions	○	○	○	○
School board	○	○	○	○
State laws or regulations	○	○	○	○
Federal laws or regulations	○	○	○	○
Union contracts and the collective bargaining process	○	○	○	○
Parental pressure	○	○	○	○
Teacher or staff pressure	○	○	○	○
Alumni	○	○	○	○
School traditions	○	○	○	○
College expectations	○	○	○	○
Charter autorizers	○	○	○	○
Market competiton	○	○	○	○
Lack of training or knowledge	○	○	○	○

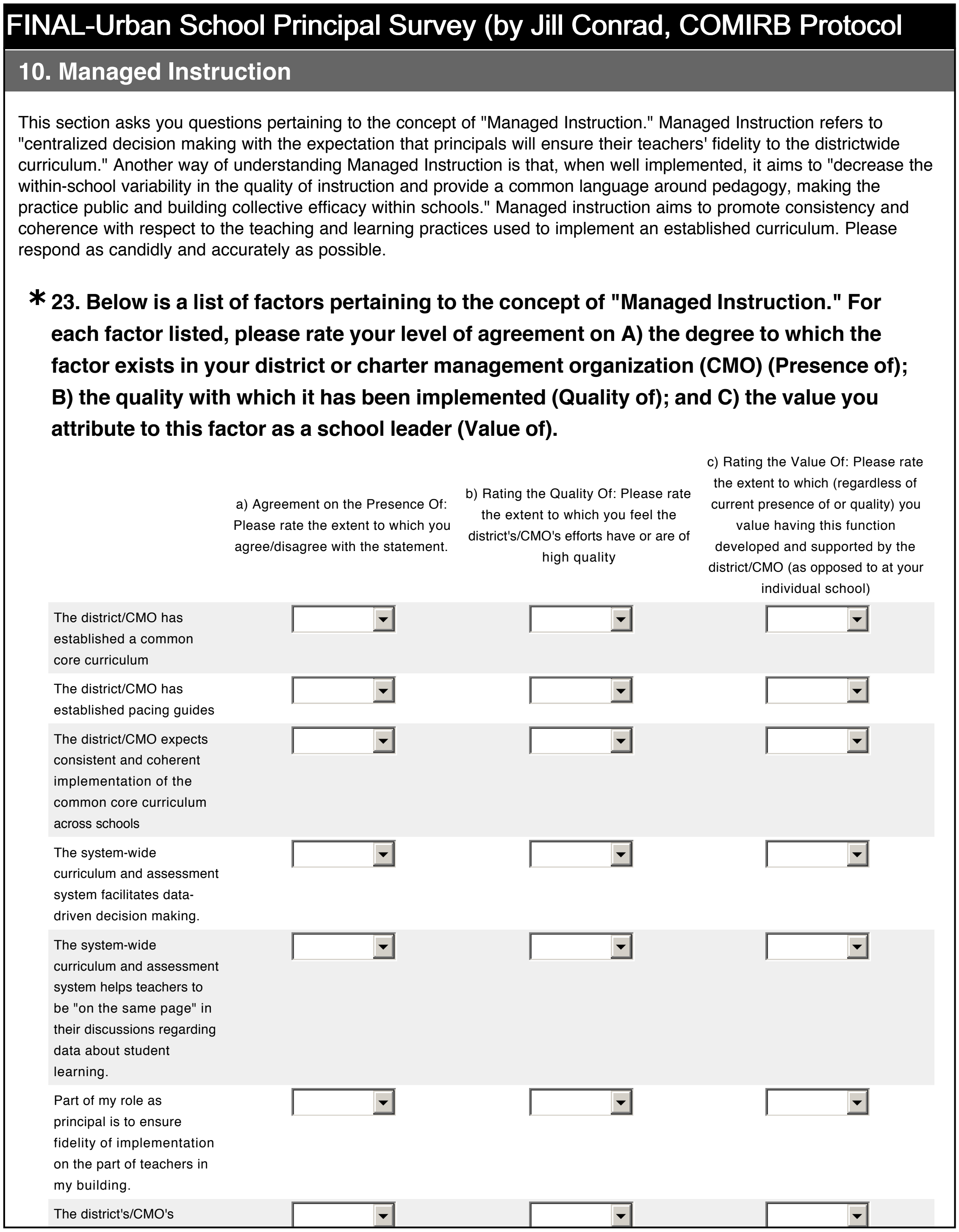
Other constraints on your autonomy (please specify)



*** 22. Generally speaking, in your role as a principal at your current school, when you encounter constraints on your autonomy, to what degree do you accept them as a normal part of education and to what degree do you tend to take steps to work around them? Please indicate your response on a scale of 1-5, below.**

	1: I do everything I can to work around most constraints	2	3	4	5: I accept most constraints as a normal part of public education
Things I consider to be constraints on autonomy	○	○	○	○	○

Please explain your response.



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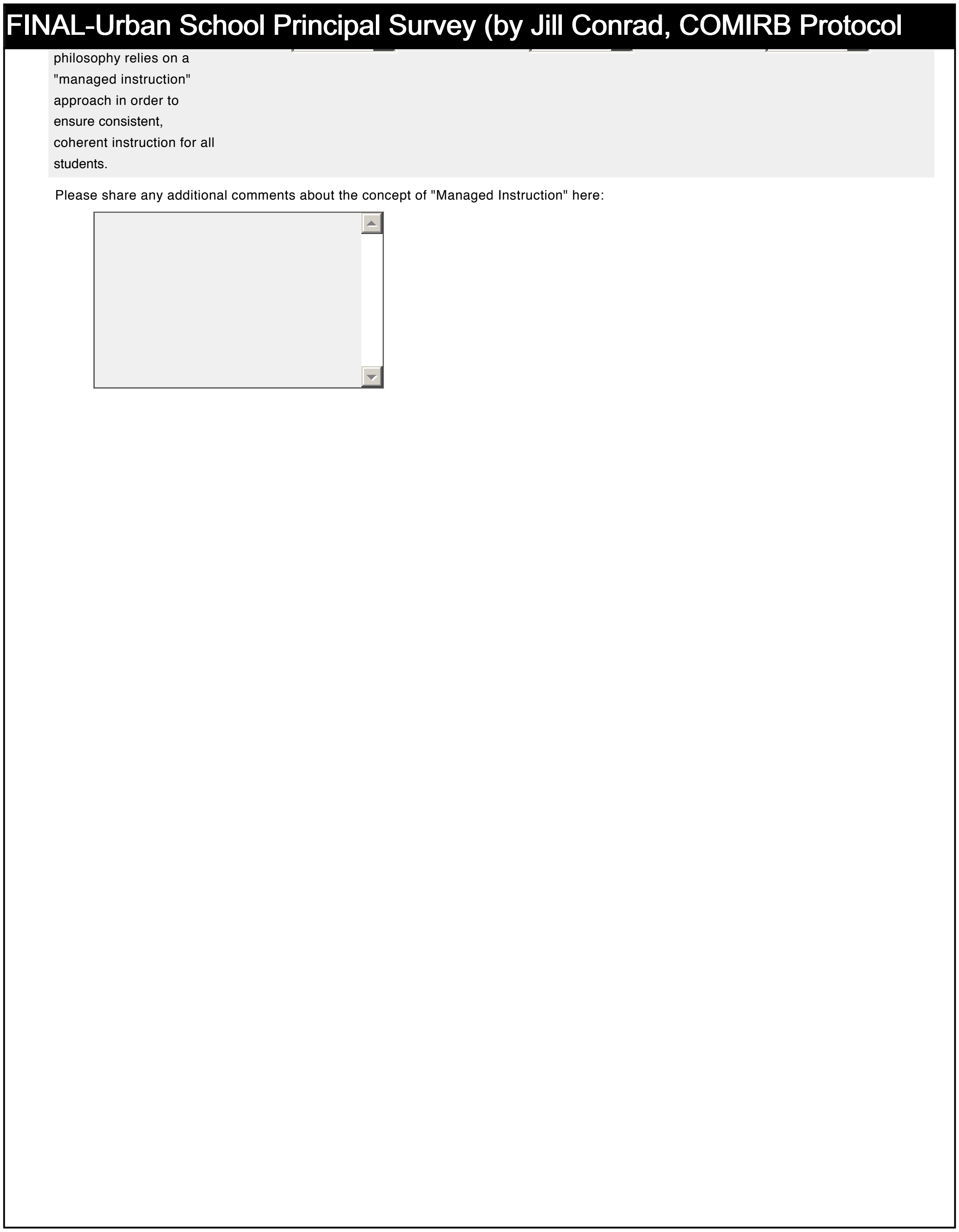
10. Managed Instruction

This section asks you questions pertaining to the concept of "Managed Instruction." Managed Instruction refers to "centralized decision making with the expectation that principals will ensure their teachers' fidelity to the districtwide curriculum." Another way of understanding Managed Instruction is that, when well implemented, it aims to "decrease the within-school variability in the quality of instruction and provide a common language around pedagogy, making the practice public and building collective efficacy within schools." Managed instruction aims to promote consistency and coherence with respect to the teaching and learning practices used to implement an established curriculum. Please respond as candidly and accurately as possible.

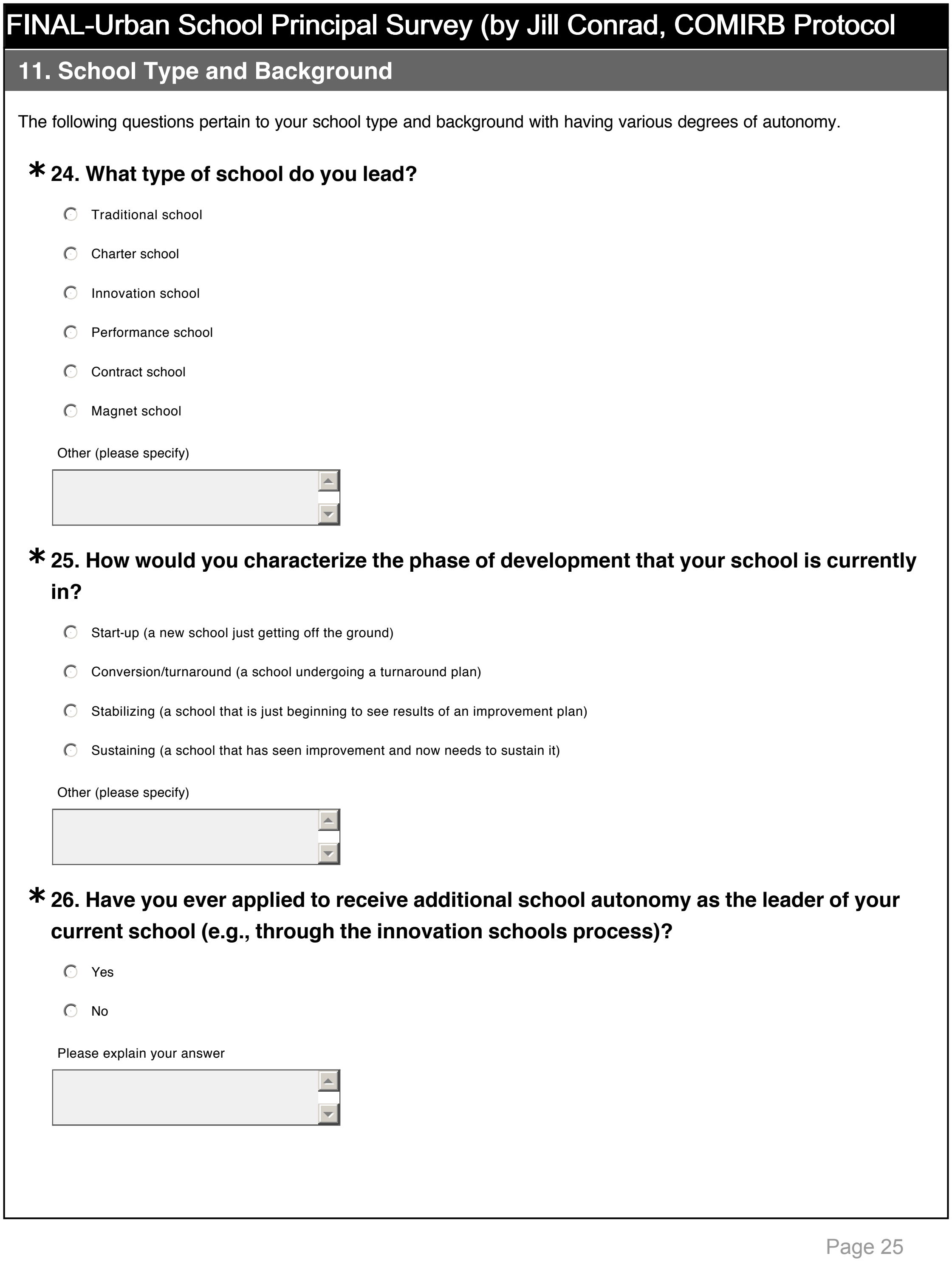
*** 23. Below is a list of factors pertaining to the concept of "Managed Instruction." For each factor listed, please rate your level of agreement on A) the degree to which the factor exists in your district or charter management organization (CMO) (Presence of); B) the quality with which it has been implemented (Quality of); and C) the value you attribute to this factor as a school leader (Value of).**

	a) Agreement on the Presence Of: Please rate the extent to which you agree/disagree with the statement.	b) Rating the Quality Of: Please rate the extent to which you feel the district's/CMO's efforts have or are of high quality	c) Rating the Value Of: Please rate the extent to which (regardless of current presence of or quality) you value having this function developed and supported by the district/CMO (as opposed to at your individual school)
The district/CMO has established a common core curriculum			
The district/CMO has established pacing guides			
The district/CMO expects consistent and coherent implementation of the common core curriculum across schools			
The system-wide curriculum and assessment system facilitates data-driven decision making.			
The system-wide curriculum and assessment system helps teachers to be "on the same page" in their discussions regarding data about student learning.			
Part of my role as principal is to ensure fidelity of implementation on the part of teachers in my building.			
The district's/CMO's			



philosophy relies on a "managed instruction" approach in order to ensure consistent, coherent instruction for all students.

Please share any additional comments about the concept of "Managed Instruction" here:



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11. School Type and Background

The following questions pertain to your school type and background with having various degrees of autonomy.

*** 24. What type of school do you lead?**

○ Traditional school

○ Charter school

○ Innovation school

○ Performance school

○ Contract school

○ Magnet school

Other (please specify)

*** 25. How would you characterize the phase of development that your school is currently in?**

○ Start-up (a new school just getting off the ground)

○ Conversion/turnaround (a school undergoing a turnaround plan)

○ Stabilizing (a school that is just beginning to see results of an improvement plan)

○ Sustaining (a school that has seen improvement and now needs to sustain it)

Other (please specify)

*** 26. Have you ever applied to receive additional school autonomy as the leader of your current school (e.g., through the innovation schools process)?**

○ Yes

○ No

Please explain your answer

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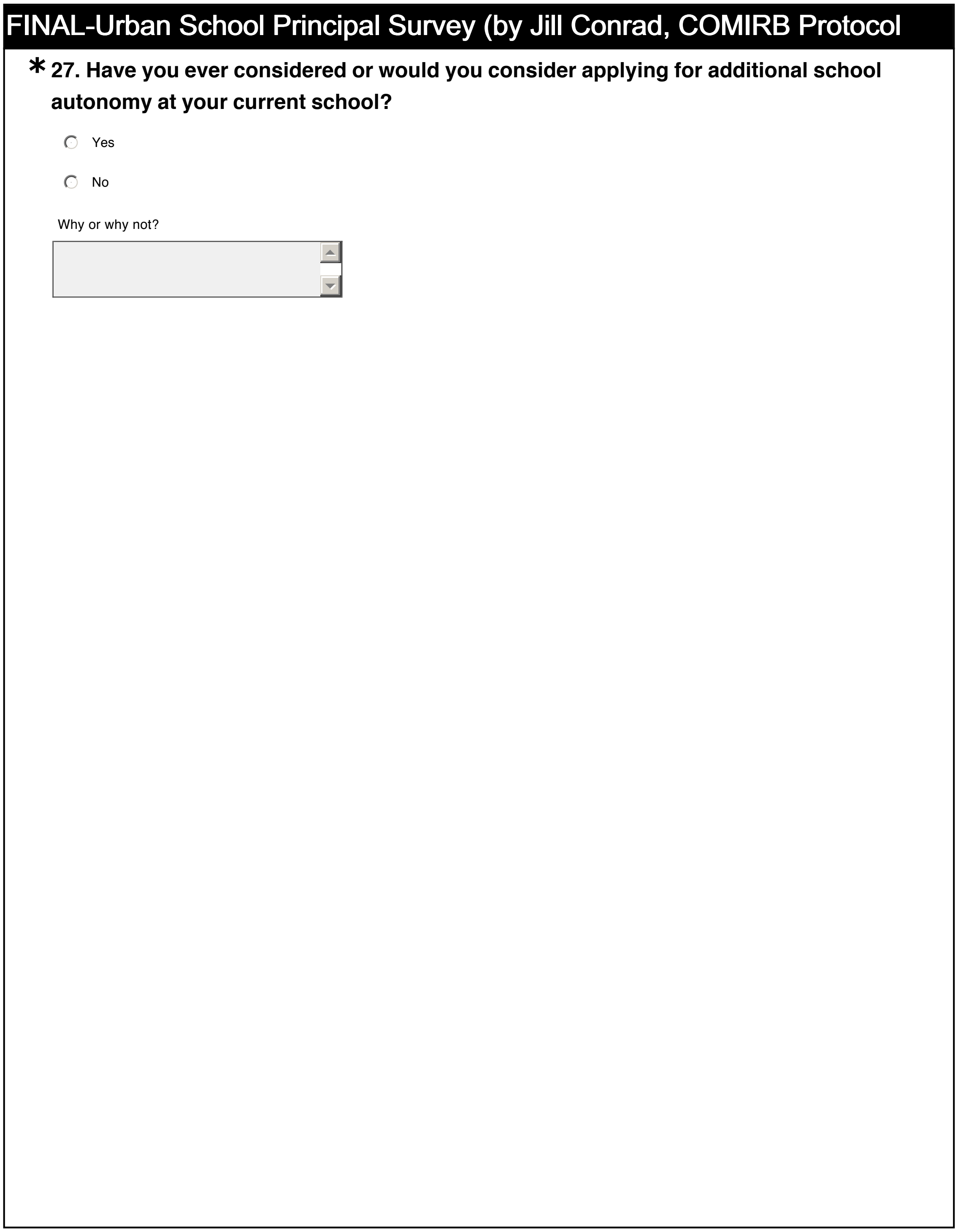
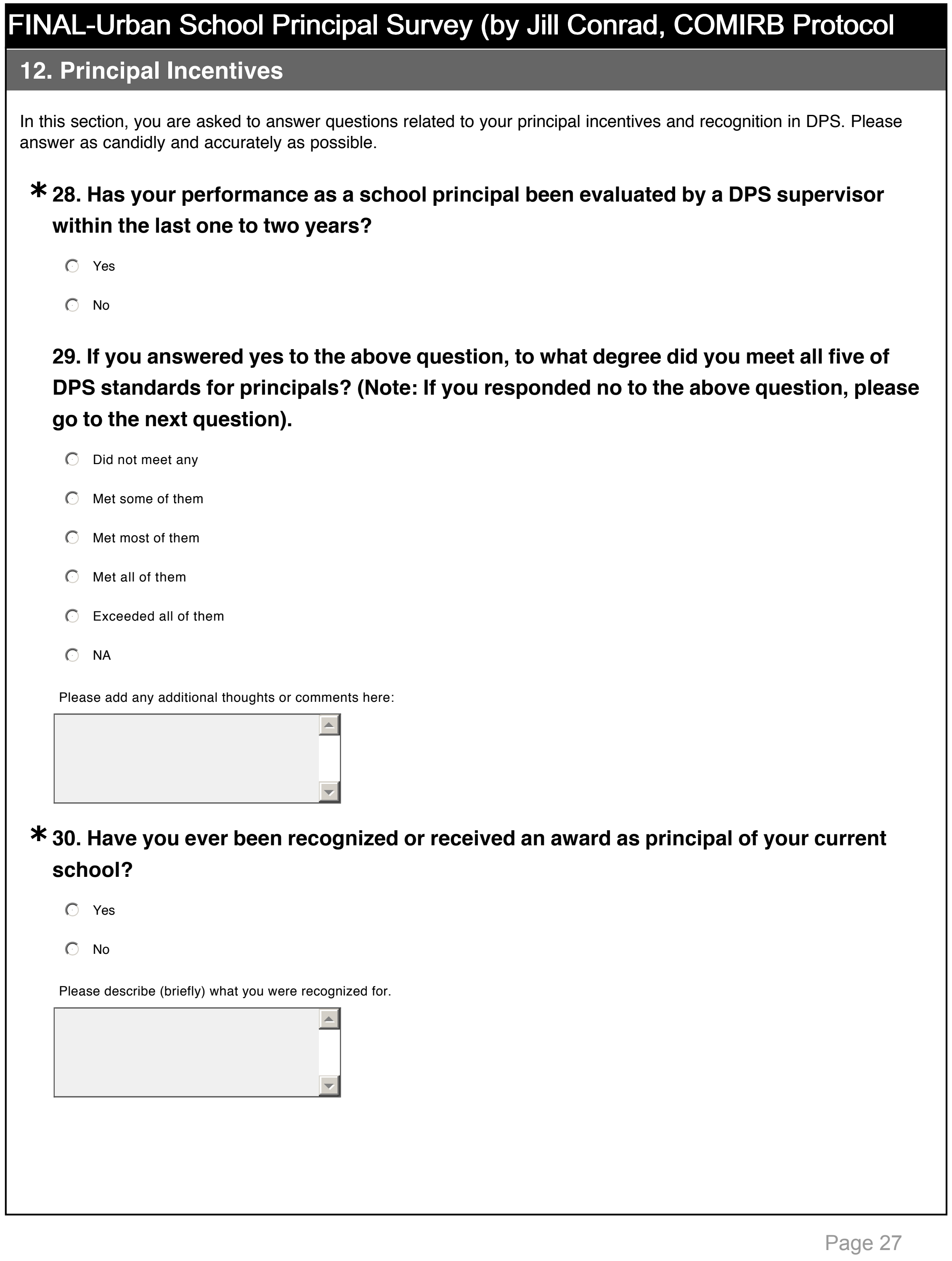


*** 27. Have you ever considered or would you consider applying for additional school autonomy at your current school?**

○ Yes

○ No

Why or why not?



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12. Principal Incentives

In this section, you are asked to answer questions related to your principal incentives and recognition in DPS. Please answer as candidly and accurately as possible.

*** 28. Has your performance as a school principal been evaluated by a DPS supervisor within the last one to two years?**

○ Yes

○ No

29. If you answered yes to the above question, to what degree did you meet all five of DPS standards for principals? (Note: If you responded no to the above question, please go to the next question).

○ Did not meet any

○ Met some of them

○ Met most of them

○ Met all of them

○ Exceeded all of them

○ NA

Please add any additional thoughts or comments here:

*** 30. Have you ever been recognized or received an award as principal of your current school?**

○ Yes

○ No

Please describe (briefly) what you were recognized for.

*** 31. Have you received incentive pay for achieving one of DPS' goals?**

○ Yes

○ No

32. If you answered yes to the above question, for what did you receive incentive pay? Please check all that apply.

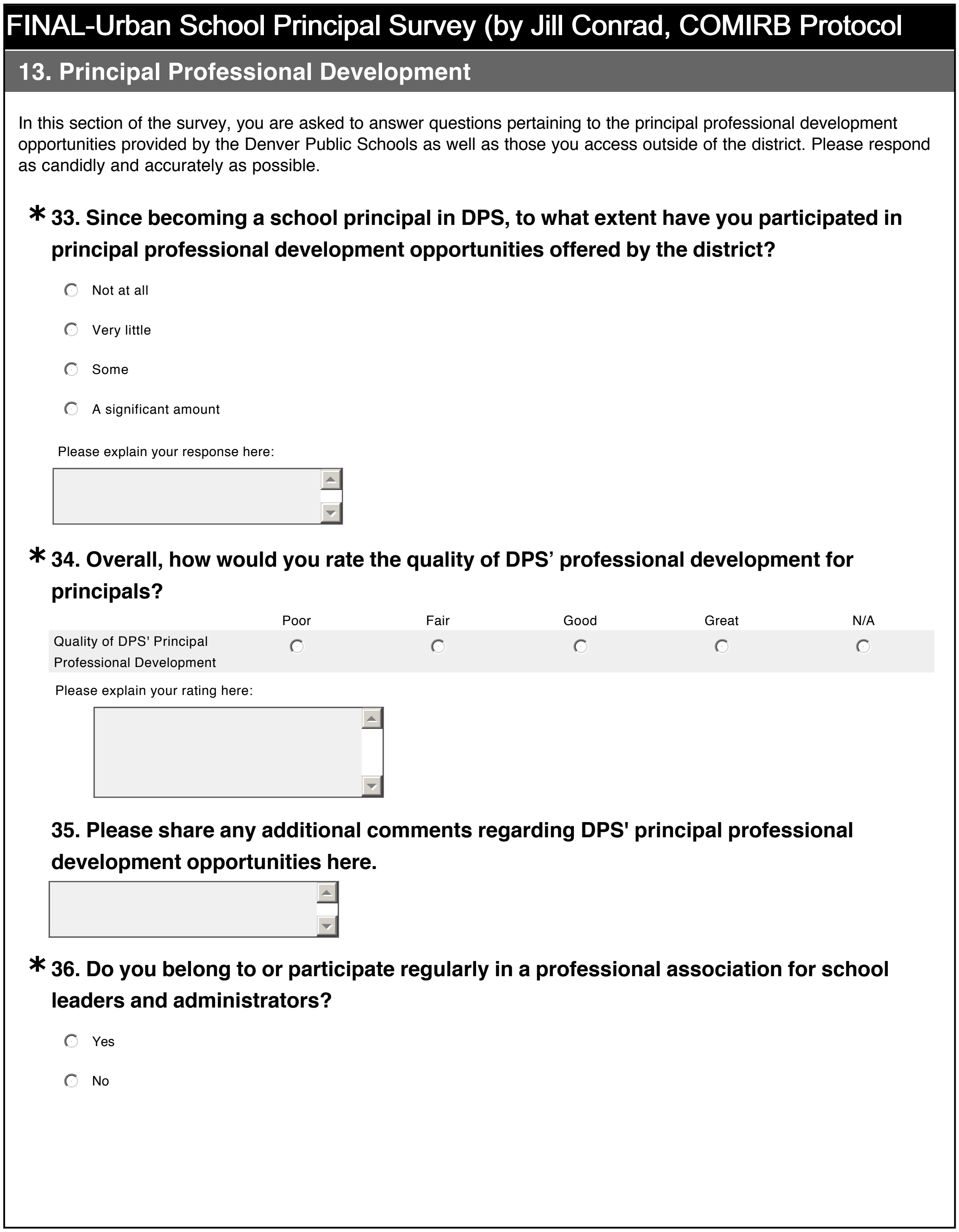
☐ Serving in a hard-to-staff school

☐ Meeting student performance-expectations

☐ Implementing a school improvement plan

☐ Other

Other (please specify)



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13. Principal Professional Development

In this section of the survey, you are asked to answer questions pertaining to the principal professional development opportunities provided by the Denver Public Schools as well as those you access outside of the district. Please respond as candidly and accurately as possible.

*** 33. Since becoming a school principal in DPS, to what extent have you participated in principal professional development opportunities offered by the district?**

- ○ Not at all
- ○ Very little
- ○ Some
- ○ A significant amount

Please explain your response here:

*** 34. Overall, how would you rate the quality of DPS’ professional development for principals?**

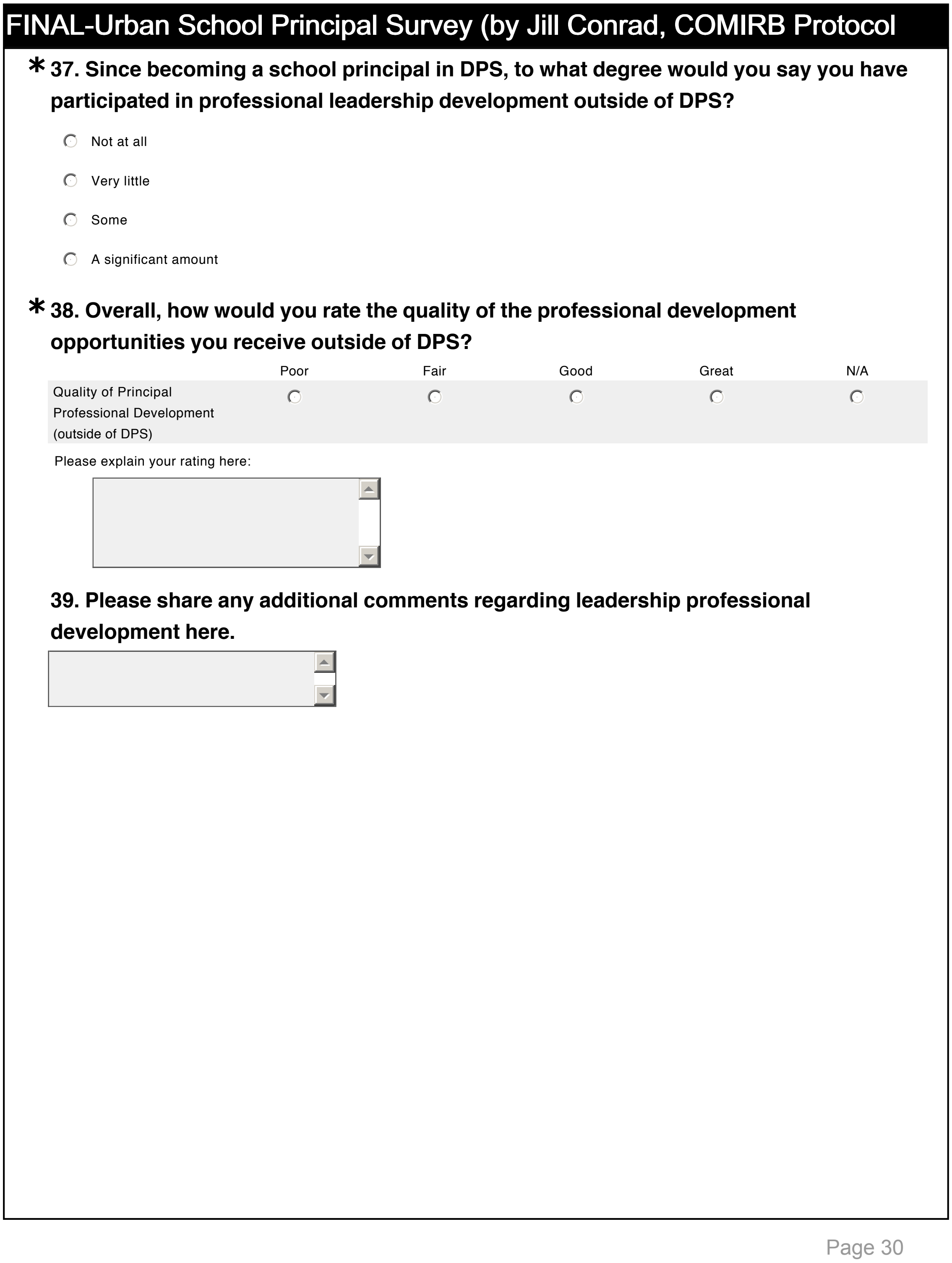
	Poor	Fair	Good	Great	N/A
Quality of DPS' Principal Professional Development	○	○	○	○	○

Please explain your rating here:

35. Please share any additional comments regarding DPS' principal professional development opportunities here.

*** 36. Do you belong to or participate regularly in a professional association for school leaders and administrators?**

- ○ Yes
- ○ No



*** 37. Since becoming a school principal in DPS, to what degree would you say you have participated in professional leadership development outside of DPS?**

○ Not at all

○ Very little

○ Some

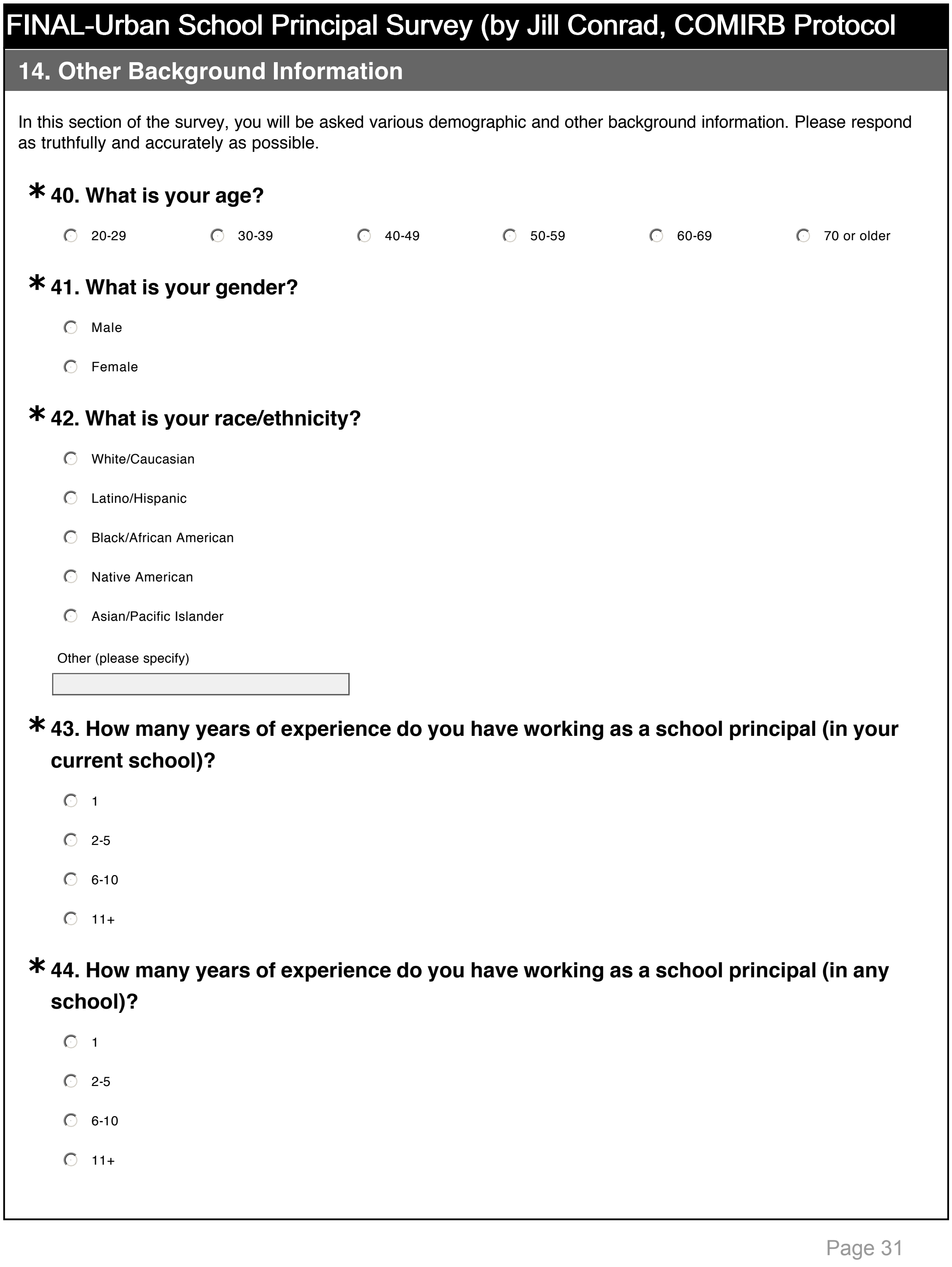
○ A significant amount

*** 38. Overall, how would you rate the quality of the professional development opportunities you receive outside of DPS?**

	Poor	Fair	Good	Great	N/A
Quality of Principal Professional Development (outside of DPS)	○	○	○	○	○

Please explain your rating here:

39. Please share any additional comments regarding leadership professional development here.



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14. Other Background Information

In this section of the survey, you will be asked various demographic and other background information. Please respond as truthfully and accurately as possible.

*** 40. What is your age?**

○ 20-29 ○ 30-39 ○ 40-49 ○ 50-59 ○ 60-69 ○ 70 or older

*** 41. What is your gender?**

○ Male

○ Female

*** 42. What is your race/ethnicity?**

○ White/Caucasian

○ Latino/Hispanic

○ Black/African American

○ Native American

○ Asian/Pacific Islander

Other (please specify)

*** 43. How many years of experience do you have working as a school principal (in your current school)?**

○ 1

○ 2-5

○ 6-10

○ 11+

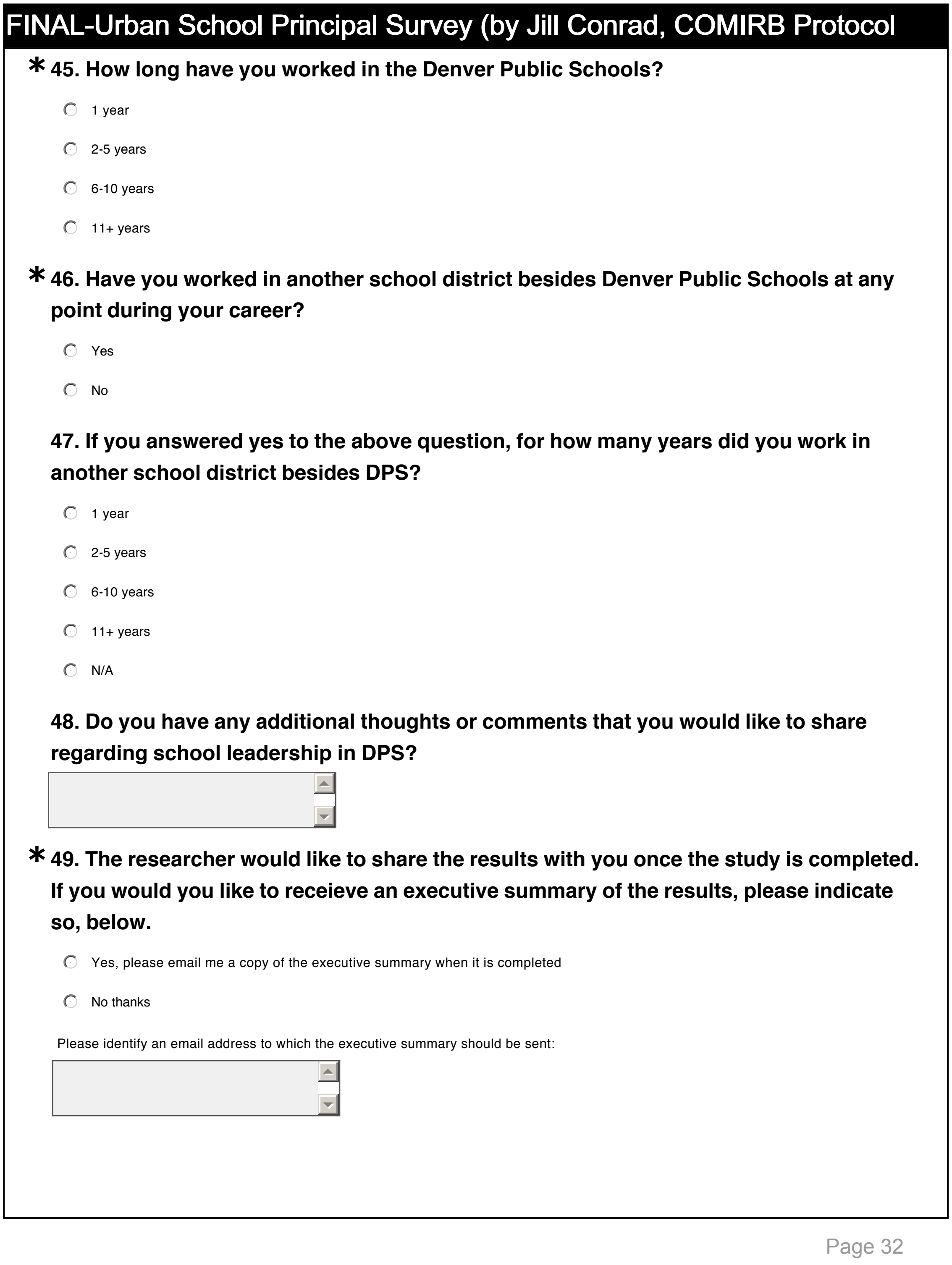
*** 44. How many years of experience do you have working as a school principal (in any school)?**

○ 1

○ 2-5

○ 6-10

○ 11+



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*** 45. How long have you worked in the Denver Public Schools?**

- ○ 1 year
- ○ 2-5 years
- ○ 6-10 years
- ○ 11+ years

*** 46. Have you worked in another school district besides Denver Public Schools at any point during your career?**

- ○ Yes
- ○ No

47. If you answered yes to the above question, for how many years did you work in another school district besides DPS?

- ○ 1 year
- ○ 2-5 years
- ○ 6-10 years
- ○ 11+ years
- ○ N/A

48. Do you have any additional thoughts or comments that you would like to share regarding school leadership in DPS?

*** 49. The researcher would like to share the results with you once the study is completed. If you would you like to receieve an executive summary of the results, please indicate so, below.**

- ○ Yes, please email me a copy of the executive summary when it is completed
- ○ No thanks

Please identify an email address to which the executive summary should be sent:

15. Thank You!

Thank you very much for your participation in this important study. Your insights on these issues have made a valuable contribution to the field. Results will be analyzed in Summer 2011 and should be available sometime later in the year.

Please contact Jill Conrad at jillkconrad@comcast.net or 720-289-2886 with any further questions or comments that you may have.

Thank you, also, for all that you do to improve education for all of Denver's students! Have a great day!

Appendix H: DPS School Performance Framework Growth Indicators & Glossary

2012 School Performance Framework Overview - Traditional

Area of Interest	Indicators	Measures		Points
Is the educational program a success?	**1. Student Progress Over Time - Growth**	1.1a-c	Median growth percentile	0,2,4,6
		1.2 a-c	Median growth percentile similar schools*	0,2,4,6
		1.3 a-c	Catch up growth	0,2,4
		1.4 a-c	Keep up growth	0,2,4
		1.5 a-c	Continuously enrolled *(ES & MS only)*	0,2,4
		1.6	COALT growth	0,2,4
		1.7 a-c	Subgroup growth*	0,1,2,3
		1.8 a-c	Subgroup growth comparison*	0,1,2
		1.9	Students with disabilities growth comparison*	0,2,4
		1.10	CELA growth*	0,2,4,6
	2. Student Achievement - Status	2.1 a-d	% CSAP/TCAP Prof/Above	0,1,2
		2.2 a-c	% CSAP/TCAP Prof/Above compared to similar schools*	0,1,2,3
		2.3 a-c	Subgroup status*	0,1,2
		2.4	Students with disabilities status comparison*	0,1,2
		2.5	CSAP/TCAP % advanced	0,1,2
		2.6	CELA % at level 5	0,1,2,3
		2.7	% DRA2/EDL2 on grade level or above *(ES only)**	0,1,2
	3. Post-Secondary Readiness - Growth *(high schools only)*	3.1 a-d	10th Grade CSAP/TCAP to COACT*	0,2,4,6
		3.2	CDE graduation rate change*	0,4,8,12
		3.3	DPS 4-year cohort grad rate change*	0,4,8,12
		3.4	On-track to graduation change	0,2,4,6
		3.5	Post-secondary credit/IB enrollment change*	0,2,4
		3.6	AP test taking rate change	0,2,4
		3.7	AP test passing count change	0,2,4
		3.8	Post-secondary course passing count change	0,2,4
		3.9 a-c	College remediation growth*	0,2,4
	4. Post-Secondary Readiness - Status *(high schools only)*	4.1 a-d	COACT	0,1,2,3
		4.2 a-d	COACT similar compared to similar schools*	0,1,2,3
		4.3	CDE graduation rate*	0,2,4,6
		4.4	CDE grad rate compared to similar schools*	0,2,4,6
		4.5	On-track to graduation	0,1,2,3
		4.6	Post-secondary course credit/IB enrollment*	0,1,2
		4.7	AP test taking rate	0,1,2
		4.8	AP test taking passing rate	0,1,2
		4.9	Post-secondary course passing rate	0,1,2
		4.10 a-c	College remediation*	0,1,2
		4.11 a-c	College remediation compared to similar schools*	0,1,2
Is the organization effective and well-run?	**5. Student Engagement & Satisfaction**	5.1	Attendance rate	0,1,2,3
		5.2	Student satisfaction	0,1,2,3
		5.3	Center-based programs**	0,1,2,3
	6. Enrollment	6.1	Re-enrollment rate compared to similar schools*	0,1,2
		6.2	% enrolled entire year compared to similar schools *(ES and MS only)**	0,1,2
		6.3	Dropout rate *(HS only)**	0,1,2
		6.4	Enrollment change**	0,2,4 (0,1,2 ES/MS)
	7. Parent Satisfaction	7.1	Parent satisfaction survey	0,2,4 (6 ES/MS)
		7.2	Parent response rate	0,1,2

** New or highly modified measures*
*** Included in overall framework score, but not in the Indicator score*

For a complete glossary of terms visit, http://spf.dpsk12.org/documents/current/documentation/SPF_Glossary.pdf
For the complete rubric specifying how each indicator on the SPF is scored, visit:
http://spf.dpsk12.org/documents/current/documentation/SPF_Rubrics_ES.pdf

Appendix I: Performance Trends of School Sample

School	School Type	Timespan	Baseline Year	Baseline SPF Status Score	Baseline SPF Growth Score	Avg SPF Growth Score	School Growth Gain
1	Traditional	2010, 2011, 2012	2009	57%	5	64	59
2	Charter	2010, 2011, 2012	2010	79%	50	90	40
3	Charter	2010, 2011, 2012	2009	100%	50	86	36
4	Traditional	2010, 2011, 2012	2009	88%	50	85	35
5	Traditional	2009, 2010, 2011	2009	28%	20	47	27
6	Charter	2011, 2012, 2013	2010	61%	50	75	25
7	Traditional	2011, 2012, 2013	2009	69%	24	48	24
8	Charter	2010, 2011, 2012	2009	25%	24	46	22
9	Innovation	2010, 2011, 2012	2009	33%	45	66	21
10	Traditional	2010, 2011, 2012	2009	66%	46	67	21
11	Traditional	2009, 2010, 2011	2008	31%	15	35	20
12	Traditional	2010, 2011, 2012	2009	43%	35	55	20
13	Charter	2011, 2012, 2013	2009	50%	34	50	16
14	Traditional	2009, 2010, 2011	2008	40%	34	48	14
15	Charter	2009, 2010, 2011	2008	52%	37	50	13
16	Innovation	2010, 2011, 2012	2009	29%	44	51	7
17	Traditional	2010, 2011, 2012	2009	63%	69	75	6
18	Traditional	2010, 2011, 2012	2009	50%	66	71	5
19	Innovation	2010, 2011, 2012	2009	8%	55	60	5
20	Charter	2010, 2011, 2012	2009	14%	33	36	3
21	Traditional	2011, 2012, 2013	2009	12%	42	45	3
22	Traditional	2010, 2011, 2012	2009	67%	87	88	1
23	Charter	2010, 2011, 2012	2009	31%	18	18	0
24	Traditional	2010, 2011, 2012	2009	48%	34	34	0
25	Innovation	2011, 2012, 2013	2010	86%	50	49	-1
26	Innovation	2009, 2010, 2011	2009	38%	44	43	-1
27	Traditional	2010, 2011, 2012	2009	81%	86	84	-2

28	Traditional	2010, 2011, 2012	2008	45%	49	46	-3
29	Traditional	2010, 2011, 2012	2009	45%	45	41	-4
30	Traditional	2010, 2011, 2012	2009	21%	63	59	-4
31	Traditional	2011, 2012, 2013	2009	83%	58	54	-4
32	Charter	2009, 2010, 2011	2009	6%	38	33	-5
33	Traditional	2010, 2011, 2012	2009	55%	68	62	-6
34	Traditional	2010, 2011, 2012	2009	29%	53	45	-8
35	Innovation	2010, 2011, 2012	2009	43%	58	49	-9
36	Traditional	2010, 2011, 2012	2009	50%	55	44	-11
37	Innovation	2010, 2011, 2012	2009	25%	57	44	-13
38	Traditional	2010, 2011, 2012	2009	58%	68	55	-13
39	Traditional	2009, 2010, 2011	2009	47%	50	37	-13
40	Charter	2011, 2012, 2013	2010	0%	50	36	-14
41	Charter	2010, 2011, 2012	2009	68%	50	35	-15
42	Innovation	2009, 2010, 2011	2008	45%	46	31	-15
43	Traditional	2010, 2011, 2012	2009	33%	47	32	-15
44	Charter	2010, 2011, 2012	2009	52%	61	45	-16
45	Traditional	2010, 2011, 2012	2009	30%	74	57	-17
46	Charter	2009, 2010, 2011	2008	26%	50	27	-23
47	Traditional	2009, 2010, 2011	2008	75%	100	74	-26
48	Traditional	2011, 2012, 2013	2010	33%	68	35	-33